



GMDSS

General Operator's Certificate

Restricted Operator's Certificate

Long Range Certificate

EXAMINATION ADMINISTRATION HANDBOOK

Ninth Edition 2012

Prepared in Consultation with the Executive Committee of AMERC Ltd

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1 INTRODUCTION

1.1 THE ASSOCIATION OF MARINE ELECTRONIC AND RADIO COLLEGES

The Association of Marine Electronic and Radio Colleges (AMERC) is an international organisation.

AMERC Colleges have a wide experience of running a range of vocationally orientated courses to meet the needs of the maritime and associated industries. These courses are recognised as being of a high standard and receive an international reputation in which the Member Colleges take pride. In addition to running courses, the colleges have collectively, through AMERC and as individual centres, considerable experience in developing syllabuses to meet regional, national and international requirements.

For many years AMERC colleges have shown their academic maturity and professional integrity by being responsible for the setting and marking of examinations for nationally recognized qualifications. The Department of Transport (DoT) has recognized the quality of these standards by accepting SQA/EDEXCEL Units as exemptions from major parts of statutory qualifications.

On 27th November 1991 an agreement was made between the Radiocommunications Agency of the Department of Trade and Industry and the Association of Marine Electronic and Radio Colleges, to conduct Maritime Radio Operator Examinations. In essence the AMERC Organisation, through its Executive Committee, agreed to provide a service to provide examinations; these now include:

CEPT GMDSS General Operator's Certificate of Competence (GOC)
CEPT GMDSS Restricted Radiotelephone Operator's Certificate of Competence (ROC)
CEPT GMDSS Long Range Radiotelephone Operator's Certificate of Competence (LRC)
Satellite Module
Replacement of W/T, R/T and GMDSS Certificates

In 1995, the Maritime Safety Agency, an agent for the Department of Transport, agreed to AMERC conducting examinations for the statutory Radio Maintenance Certificate and issuing an MSA **approved** Certificate. It further agreed to **recognise** the AMERC Radar Maintenance and Electronic Navigational Equipment Maintenance Certificate.

In June 1997 the responsibility for all Operator Examinations transferred from the Radiocommunications Agency to the Maritime Safety Agency (MSA), and subsequently these responsibilities were transferred to the Maritime and Coastguard Agency (MCA) – an Executive Agency of the Department of the Environment, Transport and the Regions.

Since 1st June 2004, AMERC is responsible for granting Course Approvals on behalf of the MCA.

AMERC is the trading name of AMERC Limited.

1.2 OVERVIEW OF EXAMINATION SYSTEM PROVIDED BY AMERC

The AMERC examination system has an organisational and management structure based on the following:-

AMERC Executive Committee (Management Board)

National Administration Centre (GMDSS)

Examination Centres

AMERC Executive Committee has the responsibility for the maintenance of standards and efficient operation of the examination system. Any matters of policy or changes, which may affect the system, will be agreed between the MCA and the Executive Committee. The National Administration Centre (NAC) and all Regional Examination Centres (RECs) are directly responsible to the Executive Committee.

The Executive Committee is supported by a Maritime Consultation Group. Membership of this group is made up of specialists from industry, the Chief Examiner (GMDSS), and AMERC representatives. The Executive Committee with the Maritime Consultation Group controls the conduct and Quality Assurance (QA) of the marine examinations and is responsible for the organisation of the annual meeting of examiners.

The function of the National Administration Centre (NAC) is to act in a central co-ordinating role for administration of the Examination System.

The main function of an Examination Centre is to provide an examination service. Candidates apply directly to one of the approved Examination Centres.

1.3 EXAMINATION CENTRES

Examination Centres consist of:

- a) **UK Regional Examination Centres (REC's)** These are geographically spread over the country and are approved by AMERC Ltd on behalf of MCA (for GOC/ROC)
- b) **UK Outreach Centres.** Centres operating as an Outreach Centre of a UK REC. These centres have course approvals from AMERC Ltd/MCA (for GOC/ROC) but the responsibility for the examinations remains with the REC.
- c) **Overseas REC's.** These operate in the same way as a UK REC except that, for an initial period, the conduct of the centre is supervised by the AMERC Ltd Chief Examiner or his Deputy.
- d) **Overseas Outreach Centres.** The UK or Overseas RECs may run their UK MCA Approved Course in a foreign country and subsequently conduct the UK GMDSS Examination. Overseas Centres may

conduct the course and examination in a remote location, provided that remote location has been inspected and approved by AMERC. The responsibility for the examination remains with the REC.

- e) **Overseas Examination Centres.** These centres allow for a peripatetic course to be delivered by organisations which have AMERC Ltd/MCA Course approvals, after which a UK Examiner attached to a UK REC conducts the examination. It is the responsibility of the peripatetic course provider to ensure the venue meets AMERC standards prior to any examination.

Any Centre wishing to be recognised as an Examination or Outreach Centre is required to seek approval for validation. To obtain validation by the AMERC Executive the Centre is required to meet the conditions specified in Sections 4.1, 4.2, 7.1, 7.2, 10.1, 10.2 (as appropriate) of this handbook. A Regional Examination Centre is additionally required to meet conditions specified in sections 2.3.1, 2.3.2 and 2.3.3 of this handbook. See Appendix 12.11 for new centre procedure.

Currently, only UK REC and Overseas REC applications are being considered.

2 AMERC ADMINISTRATION STRUCTURE

The Association has established, through its Executive Committee, the procedures for controlling and monitoring the overall operation of the examination system.

2.1 AMERC

2.1.1 THE EXECUTIVE COMMITTEE IS RESPONSIBLE FOR:

- a) Ensuring the NAC (GMDSS) and Examination Centres carry out their specified duties and responsibilities.
- b) Reporting to the Maritime and Coastguard Agency (MCA) on the operation and standard of the courses and examinations.
- c) Making recommendations to the MCA on changes in the examination structure or syllabus content.
- d) Validating and approving Examination Centres.
- e) Approving the Examiners nominated by the RECs.
- f) Appointing the Chief Examiner (GMDSS) and, if required, Deputy Chief Examiner.
- g) Agreeing with the MCA the fees to be charged for all examinations.
- h) Agreeing with the RECs the fees to be paid for examination services.
- i) Submitting to the MCA audited accounts of the examination operation.
- j) Receiving reports from the Chief (and Deputy Chief) Examiner in addition to the Executive Committee. Acting upon these reports in an appropriate manner.
- k) Maintaining regular contact with the National Administration Centre.
- l) Promoting and organising at least one conference a year.

2.2 NATIONAL ADMINISTRATION CENTRE (GMDSS)

2.2.1 THE NAC IS RESPONSIBLE FOR:

- a) Accepting reports and records from RECs.
- b) Establishing and maintaining an information database of candidates and certificate holders.
- c) Issuing of Certificates.
- d) Receiving candidate examination fees from RECs.
- e) Dealing with general enquiries.

- f) Preparing statistical information and reports for the Maritime Board, MCA and AMERC Executive Committee.
- g) Liaising with Chief Examiner (GMDSS) to ensure uniform and satisfactory standards.
- h) Producing and distributing examination papers.
- i) Liaising with the MCA on routine matters.
- j) Maintaining financial records and preparing an annual audited account.
- k) Forwarding appropriate fees to the MCA, RECs and Examiners (Examiners are paid monthly on a scale published by AMERC).

2.2.2 STAFFING

Appointing staff to fulfil the administrative and technical requirements.

2.2.3 LOCATION OF THE NAC (GMDSS)

Refer to Section 12.3 for the NAC (GMDSS) address, contact names, telephone and fax number.

2.3 REGIONAL EXAMINATION CENTRE (REC)

2.3.1 THE REC IS RESPONSIBLE FOR:

- a) Responding to applications for examinations.
- b) Arranging for and conducting GMDSS examinations within its area at all reasonable times.
- c) Designating a member of staff as Centre Co-ordinator.
- d) Recording the performance of examination candidates.
- e) Forwarding to NAC (GMDSS) the following documentation within TWO calendar months following the date of examination:
 - i. completed candidate application forms
 - ii. results of examination
 - iii. two passport size photographs of each successful candidate, signed by the examiner
 - iv. cheques for payment of examination fees, complete with cheque payment record.

Note NAC will not accept examination application forms received after two months following the date of examination unless prior arrangement has been made with the NAC Manager.
- f) Monitoring examination standards in accordance with the QA procedures specified in this handbook.
- g) Nominating at least TWO examiners and controlling all approved Examiners based at the Centre.

- h) Providing the minimum equipment requirement detailed in Section 4 of this handbook.
- i) Approving the appointment of an Examination Invigilator.
- j) Retaining the candidate's scripts, copy of application form and results sheet for a period of one year after date of examination for access by Chief Examiner (GMDSS) and NAC (GMDSS) as required.
- k) Advising candidates of the recommended examination result.
- l) Advising candidates of the procedures for resitting the examination.
- m) Informing candidates of the right of appeal and the procedures to be followed.
- n) Ensuring switchboards are fully informed of REC contact names, appointed Examiners, and other REC contact names (including home telephone numbers).
- o) If required, marking on a rota basis with other RECs, examination papers for overseas candidates.

2.3.2 REC CO-ORDINATOR

The REC Co-ordinator is responsible for:

- a) Liaising and maintaining a good working relationship with the centre management and associated Examination Centres.
- b) Arranging examinations as required.
- c) Allocating Examiners/Invigilators to examination duties.
- d) Maintaining the security of examination papers.
- e) Maintaining accurate records of examinations.
- f) Monitoring examination standards in accordance with the Quality Assurance (QA) procedures.
- g) Checking the records of candidates presenting themselves for re-assessment.
- h) Arranging for double marking of borderline scripts .
- i) Forwarding issues raised by Examiners/Invigilators and candidates to NAC/Chief Examiner/Deputy Chief Examiner.
- j) Ensuring relevant circulars and annual reports from AMERC AGM, EC, Examiners Panel, MCA, NAC, Inmarsat and similar bodies are notified to all Examiners via regular meetings.
- k) Ensuring exam scripts are sent by special delivery.

2.3.3 EXAMINERS

- a) Examiners are appointed by the REC, subject to the approval of the AMERC Executive Committee.
- b) New Examiners, having had six months teaching experience on GMDSS courses, are required to undergo an induction period where they should accompany an experienced Examiner to observe the assessment of candidates and experience the procedures involved. In addition, they will be monitored conducting a mock examination with an experienced Examiner. At the earliest opportunity they are required to undergo a training course with the Chief Examiner. They will be appointed for a probationary period and then, subject to all conditions having been met and a satisfactory report from the REC Co-ordinator to the EC, will be appointed as an approved examiner.

2.3.4 COURSE PROVIDERS

The Course provider is responsible for:

- a) Gaining course approval certification from AMERC, for GMDSS GOC and ROC and Conversion to GOC, to meet requirement STCW Regulation IV/2, STCW Code Section A IV/2.
- b) Providing an MCA Course Completion Certificate as per STCW requirements, to candidates who have met the course criteria. Candidates must achieve 93% attendance as a minimum requirement to qualify for a course completion certificate. Where a candidate may have missed lectures due to illness etc., additional tuition is at the discretion of the course provider, if staff are available.

2.4 QUALITY ASSURANCE (QA) PROCEDURES

The following system for ensuring examination standards and quality of service has been adopted.

2.4.1 AMERC EXECUTIVE COMMITTEE

The AMERC Executive Committee:

- a) Considers any report raised by the GMDSS Chief Examiner, Deputy or Assistant Chief Examiner or Maritime Consultation Group.
- b) Appoints the Chief Examiner and if required Deputy and Assistant Chief Examiner.
- c) Approves the Examiners nominated by the RECs.
- d) Validates and approves Examination Centres.

2.4.2 NATIONAL ADMINISTRATION CENTRE (GMDSS)

The National Administration Centre:

- a) Liaises with the Chief Examiner to ensure uniformity of standards.
- b) Informs the Chief Examiner of any appeals lodged.

2.4.3 REGIONAL EXAMINATION CENTRE (REC)

Each Regional Examination Centre:

- a) Nominates **ONE** Examiner to attend the annual Examiners' Panel Meeting.
- b) Considers, in the first instance, any appeal raised by a candidate.

2.4.4 EXAMINERS' PANEL

This panel is chaired by the Chief Examiner (GMDSS) or Deputy Chief Examiner and is responsible to the AMERC Executive Committee for:

- a) Reviewing overall examination results, procedures and examination statistics produced by RECs and NAC for the previous year.
- b) Producing a structure and standard format for the conduct of the examinations.
- c) Producing a bank of questions with model answers, revising and updating the question bank.
- d) Considers issues raised by the EC, Maritime Consultation Group or MCA.
- e) Providing members, at the request of the Executive Committee, to form an examiners panel to hear cases where an individual examiner is considered to have failed to adhere to examination standards.

2.4.5 CHIEF EXAMINER (GMDSS), DEPUTY AND ASSISTANT CHIEF EXAMINER

- a) The Chief Examiner is responsible to the AMERC Executive Committee for the Question Bank and overseeing the maintenance of common examination standards amongst RECs.
- b) The Deputy and/or Assistant Chief Examiner, if appointed, are responsible to the AMERC Executive Committee and are required to assist the Chief Examiner with monitoring of examination standards and procedures of all examinations for which AMERC has responsibility.
- c) Either the Chief Examiner, Deputy or Assistant Chief Examiner is required to visit each Examination Centre on a scheduled, rotational basis; additionally on the instructions of the AMERC Executive Committee to investigate anomalies or complaints regarding the conduct of examinations.
- d) The Chief Examiner, with agreement of Executive Committee Chairman or Secretary is authorised to suspend an examiner with immediate effect for failing to adhere to examination standards.
- e) In the case of an appeal lodged by a candidate, based upon the standard, conduct or result of an examination, the Chief Examiner or Deputy is required to conduct an investigation and take remedial action if appropriate. A report of such an appeal, and the ensuing action, is made to the AMERC Executive Committee and Maritime Consultation Group.

2.4.6 EXAMINER'S QUALIFICATIONS

- a) Possession of a GMDSS General Operator's Certificate, MRGC or PMG Certificate and having relevant practical experience of the full range of GMDSS equipment in a teaching role for a minimum period of six months. The Executive Committee may, in exceptional circumstances, (i.e. new centres) make exception to this regulation.
- b) Prospective examiners who do not have qualifications listed in (a) above must undertake and pass the GMDSS GOC examination. The examination is conducted by the Chief Examiner, Deputy Chief Examiner or Assistant Chief Examiner.

2.4.7 AUDIT PROCEDURES

Course approval and examination inspection audits are conducted to determine the effectiveness of approved courses and the GMDSS examination system. Audit reports are received by the AMERC Executive Committee and conveyed via the Maritime Consultation Group (MCG) to the Maritime and Coastguard Agency (MCA). The MCG uses the audit reports to inform any appropriate action that may be necessary to assure the quality of courses and examinations. See Appendix for details of the audit procedure.

2.5 ACTIONS IN EVENT OF FAILURES TO COMPLY WITH EXAMINATION STANDARDS

2.5.1 EXAMINATION CENTRES

- a) The Executive Committee meeting with Maritime Consultation Group will discuss concerns raised via normal QA procedures and will decide whether a visit is necessary. If a visit is thought not to be necessary, the Executive Committee may issue the examination centre, via the REC Co-ordinator, with requirements and/or recommendations.
- b) Where the Executive Committee decides that a visit is necessary, a visit by the Chief Examiner or Executive Committee member will be made. A verbal report will be made at the end of the visit to the REC Co-ordinator and a written report submitted to the Executive Committee.
- c) Upon receiving the report the Executive Committee will issue requirements, to be actioned by a specified date, to the Examination Centre via the REC Co-ordinator.
- d) The Examination Centre, via the REC Co-ordinator, should respond with an action plan to meet the requirements by the specified date.
- e) The progress of the action plan will be monitored by Secretary and/or the Chief Examiner
- f) A visit may be made, to ensure compliance with the action plan. This visit will be at the Centre's expense. (Travelling & accommodation expenses and captive time will be charged. The rate for captive time will be commensurate with that used by the MCA. Where an air flight exceeds four hours, Business Class rates will apply.)
- g) Further non-compliances identified by the visit or normal QA procedures will be reported to the Executive Committee who will issue new requirements with a final warning.

- h) The Chief Examiner and a member of the Executive Committee will then make an unscheduled visit to the centre. An unsatisfactory report following this visit will lead to a recommendation by the Executive Committee for the withdrawal of the centre's approval.
- i) Where deficiencies in course delivery have been identified and corrective measures have not been actioned, the EC has the right to suspend or remove a course provider's course approval. Once suspension or revocation has been issued, the course provider MAY NOT issue Course Completion Certificates.
- j) Where deficiencies in the examination process have been identified the EC has the right to suspend or revoke REC status from a centre. In these circumstances, no further examinations should be conducted. Any examination applications sent to the NAC on or after the suspension date will NOT be accepted from that REC for processing.
- k) Appeals by a representative of the centre against actions 2.5.1(a) to (g) should be submitted in writing to the Secretary within the action plan date for forwarding to the MCA for their consideration. If the appeal is upheld by the MCA, the Executive Committee will modify or cancel any outcome or Action plan as directed by the MCA.
- l) Appeals against action 2.5.1(h) should be made in writing to the Secretary for forwarding to the MCA within seven working days of receipt of withdrawal of approval.

2.5.2 INDIVIDUAL EXAMINERS

- (a) Concerns about an examiner raised by normal QA procedures will be reported and discussed by the Executive Committee during its meeting with the Maritime Consultation Group. If the concerns are deemed to be sufficiently serious, the matter will be referred to a specially convened examiners panel.
- (b) Serious irregularities discovered during a visit by the Chief Examiner will be brought to the attention of Executive Committee Chairman, Secretary or Deputy Executive Committee Chairman. This consultation may result in the temporary, but immediate, suspension of the examiner.
- (c) Following (a) or (b) the Executive Committee will ask for an Investigation Panel to be convened under the non-voting chairmanship of one of the Executive Committee. Three members of the examiners panel will be recruited to hear the case. The examiner under investigation will be able to attend with a supporter. The Chief Examiner (or Deputy or Assistant Chief Examiner) will also be requested to attend.
- (d) If the Investigation Panel finds that the examiner has failed to adhere to examination standards, they will issue a warning and a remedial action plan for the examiner.
- (e) The Chairman of the Investigation Panel will monitor this action plan.
- (f) Failure to complete the action plan within the specified time or further non-compliances identified by QA procedures will lead to the implementation of (c). The Investigation Panel will issue a second remedial action plan with a final warning.
- (g) The chairman of the Investigation Panel will monitor this second action plan.
- (h) Further failure to comply with this second action plan or identification of further non-compliances identified by QA procedures will result in a recommendation to the Executive Committee for the withdrawal of the examiner's approval.
- (i) Appeals against actions issued during procedures 2.5.2(a) to (h) should be made in writing to the Secretary for consideration by the Executive Committee within seven working days of receipt of the suspension, action plan or withdrawal of approval.
- (j) The examiner, accompanied by a supporter, may attend the Executive Committee's hearing of the appeal. If the appeal is upheld, the Executive Committee may reverse a decision or cancel or modify an action plan. If the appeal is refused the original decision or action plan will be effective.
- (k) If the result of the appeal to the Executive Committee is the withdrawal of examiner status, then the examiner may appeal to the MCA. This appeal should be made in writing to the Secretary for forwarding to the MCA within seven working days of receiving the confirmation of the appeal.
- (l) If the MCA upholds the appeal against the removal of the examiner status, the Executive Committee will act upon the MCA's recommendations. If the MCA rejects the appeal then the examiner will be removed from the list of approved examiners.

3 GENERAL OPERATOR'S CERTIFICATE (GOC) EXAMINATION PROCEDURES

3.1 GENERAL

Examinations for GMDSS Certificates are usually made available subject to demand. Although every effort is made by RECs to accommodate the requirements of candidates and Examination Centres, notice of one working week is normally required.

3.2 GUIDE TO APPLICANTS

3.2.1 STUDY REQUIREMENTS

GOC Candidates are required to undertake an MCA approved course of study and obtain a course completion certificate prior to the examination (see 2.3.4).

3.2.2 APPLICATION

Any individual or company requiring assessment for the examination should make application to the REC of their choice.

3.2.3 NATIONALITY

There is no nationality requirement in respect of GOC certificates issued by the UK Administration.

3.2.4 AGE RESTRICTIONS

Certificates cannot be issued to candidates under the age of 18 years.

3.2.5 CONDITIONS

Each candidate is required to:

- (a) Complete an Examination Application Form
- (b) Supply TWO passport photographs meeting the requirements of the UK Identity and Passport Service
- (c) Pay the appropriate fee
- (d) Provide a valid Course Completion Certificate from an MCA approved course of study
- (e) Advise REC Co-ordinator of date and location of previous examination attempts (if applicable).

3.3 LOCATION AND ARRANGEMENTS

3.3.1 REC EXAMINATION

Examinations are normally conducted at the REC and arranged between the hours of 09.00 and 17.00 Monday to Friday or at other times by arrangement.

3.3.2 OUTREACH & EXAMINATION CENTRES

In conducting Examinations at Outreach and overseas examination centres, the minimum requirement is that the place of examination must have a FULL GMDSS equipment fit as per Section 4.1. Although every effort is made by RECs to accommodate the requirements of candidates and Centres, the provision of this service will be agreed between the parties for provision at a mutually convenient date. Generally as a minimum, notice of one working week is required to offer this service in the United Kingdom and two working weeks for centres overseas. Additional costs incurred at UK Outreach Centres for this service are detailed in Section 3.4.5. Additional costs at Overseas Examination and Overseas Outreach Centres are by mutual agreement between the REC intending to provide the examination service and the Centre.

3.4 FEES AND EXPENSES

GMDSS Examination fees are VAT exempt.

3.4.1 GENERAL

Examination fees are set annually after joint consultation between AMERC and the MCA. The fee for conducting GMDSS examination includes payment for each of the following elements:-

- Examiner's fee (UK only)
- NAC certificate administration fee
- REC facility fee (UK only)
- MCA fee
- AMERC administration fee.

3.4.2 PAYMENT OF EXAMINATION FEE

The following methods of payment are acceptable:-

- Cash
- Bank Card (subject to bank commission charge)
- UK Postal Order

- Cheque
NB: cheques to be made payable to AMERC Ltd. NAC (GMDSS) drawn in £ sterling on a bank in the UK and supported by a Cheque Guarantee Card .
- BACs
UK A/C no. 297692 48 Sort Code 60-60-05 A/C Name The Wray Castle Educational Trust Re AMERC NAC (GMDSS), National Westminster Bank PLC, Leeds City Office, 8 Park Row, Leeds LS1 1QS.

(International IBAN Code GB53 NWBK 6060 0529 7692 48 B/C Code NWBK GB 2L)

NB Bank commission charges should be covered by the sender. AMERC will not process certificates until the full amount is received.

It is desirable that the REC covers payments for all examinations. Should a cheque from a candidate be referred, then payment will be requested from the REC. In such a case the certificate will be sent to the REC and not directly to the candidate.

3.4.3 EXAMINATION FEE - GMDSS GENERAL OPERATOR'S CERTIFICATE (GOC)

The fee for the **FULL** GMDSS GOC examination is £120.00. Overseas RECs, Overseas Outreach and Overseas Examination Centres pay £77.00 to AMERC NAC but may charge the candidate up to a maximum of £120.00 to cover additional expenses.

3.4.4 EXAMINATION HELD AT REC

Examination fee as stated in 3.4.3 with no additional expenses incurred.

3.4.5 UK OUTREACH EXAMINATION (LOCATION OTHER THAN REC)

GMDSS GOC outreach candidates are required to pay the examination fee stated in 3.4.3 **PLUS**:

- (i) travel expenses, negotiated in advance between Examiner and candidates
- (ii) at the discretion of the REC, captive time fee of £16.00 per hour for examiner's travelling time.

3.5 EXAMINATION FORMAT

3.5.1 GENERAL

All component parts of the examination must be conducted in the **English Language**.

Normally, an examiner may **NOT** conduct an examination on subjects, which they have taught the candidate. Under exceptional circumstances where a lecturer may have to act as examiner, permission should be sought from the NAC/Chief Examiner prior to the examination. Details of the exceptional circumstances must be communicated to the NAC (on page 2 of the candidate's application form).

3.5.2 GMDSS GENERAL OPERATOR'S CERTIFICATE

- (a) Each REC keeps a bank of examination papers to be used in rotation. New examination papers are prepared at the Examiners' Panel meeting.
- (b) The examination consists of **THREE** elements:
 - (i) General Knowledge paper. Consists of three written questions plus 15 multiple choice questions. 25 minutes allowed for this element.

Pass mark is 75%.
 - (ii) Operational Performance Test on the approved range of GMDSS equipment comprising Main Transceiver, DSC MF/HF/VHF Encoder, VHF Transceiver, Navtex Receiver and Telex/Keyboard skills, Inmarsat B, Fleet 77 and C terminals or approved simulators, dummy EPIRB and SART, use of documents.

The maximum time for this examination is 90 minutes.

Pass mark of 70%.

The Transas 3000 and 4000 and TGS 4100 simulator with hard panel equipment has been approved for the conduct of GOC examinations in place of actual equipment.
 - (iii) Radiotelephony Communications Examination of simulated operating procedures in respect of SOLAS.

Examination time for six candidates approximately 30 minutes.

Pass mark of 75%.
- (c) Examination sequence for assessing each element is at the discretion of each REC and may be conducted over a maximum period of two days.
- (d) The examination may be conducted by one or more Examiners.

3.6 ISSUE OF CERTIFICATES

On receipt of examination application forms and result of any assessments from the REC, the NAC records the details on a database, files the forms and issues certificates directly to successful candidates. This procedure will normally be completed within two weeks.

3.7 EXEMPTIONS

Exemptions do not normally exist for any part of the examination however, candidates who hold an LRC certificate and have attended an approved shortened course to upgrade to a GOC will be exempt the R/T exercise. Holders of GMDSS GOC's from centres not on the MCA approved list, UK GMDSS GOCs obtained prior to January 1994, MRGCs and PMGs may also attend a shortened course but must undergo the full examination.

3.8 RE-ASSESSMENT

3.8.1 RESIT REQUIREMENTS

- (a) At the discretion of the REC, candidates may only be required to resit failed sections of the examination providing:
- (i) re-assessment is conducted at the same REC
 - (ii) re-assessment occurs within seven working days of original examination date (N.B. for a candidate, at a new Overseas REC within their probationary period, whose result has been amended, the seven working days commences upon receipt of the confirmed result. Any exemption will be at discretion of Chief Examiner)
 - (iii) the **FULL** examination fee is paid irrespective of the number of sections to be retaken
 - (iv) in the case of a candidate obtaining a **MINIMUM** mark of 63/90 in the OPT examination but failing the examination due to a Shaded Box Entry(ies), **one** resit may be granted covering only that equipment section in which the Shaded Box entry has been made. The original overall OPT mark should be entered on the resit form, together with a Pass or Fail grade.
- In the event of the candidate failing the resit, subsequent resit attempts should cover the **complete OPT scenario** examination.
- (b) In the case of a candidate resitting the examination eight working days, or more, after the original examination date, the candidate is required to:
- (i) resit ALL SECTIONS of the examination
 - (ii) pay the FULL examination fee.

3.8.2 RE-ASSESSMENT TIME LIMITATIONS

Candidates may be allowed a maximum of one resit on the day of the examination, thereafter 24 hours should elapse between further attempts.

3.8.3 NON-REPETITION OF EXAMINATION PAPERS

Candidates who intend to resit the SOLAS, Radio Regulation or R/T Communications examination, are to be given a different examination paper on each occasion. The GMDSS Chief Examiner is to be consulted in the event of all examination papers having been attempted by the candidate.

3.8.4 REPEAT EXAMINATIONS AT ANOTHER REC

A candidate who wishes to resit the examination at another REC is required to resit **ALL SECTIONS** of the examination and pay the **FULL** examination fee.

3.9 CONDUCT AND INVIGILATION OF EXAMINATIONS

3.9.1 INVIGILATORS MUST BE APPROVED BY THE REC.

3.9.2 INSTRUCTIONS FOR INVIGILATORS:

- (a) An Invigilator must be continuously present during the examination.
- (b) The time allowed for each section is:
 - (i) General Knowledge Paper 25 minutes
 - (ii) Operational Performance Test Not exceeding 90 minutes
 - (iii) R/T Communications Approximately 30 minutes (per group of 6)
- (c) The examination room should be quiet at all times. Measures should be taken to prevent interruptions during the examination. Watches and calculators must be silent in operation.
- (d) All mobile devices (phones, pagers etc) belonging to candidates, invigilators and examiners should be fully switched off. Devices belonging to candidates should be given to the invigilator/examiner for the duration of the examination.
- (e) A clock should be clearly visible to all candidates.
- (f) Each candidate is required to provide his/her own writing implements.
- (g) No unauthorised paper is allowed on the candidate's desk. Possession of unauthorised items will render a candidate liable to disqualification.
- (h) All candidates should be seated five minutes before the start time of the examination.
- (i) Candidates arriving after the start of the examination will not be allowed to enter the room.
- (j) Candidates who leave the examination room before the end of the examination will **NOT** be permitted to re-enter the room or continue the examination. In these circumstances the question and answer sheets will be collected by the Invigilator prior to the candidate leaving the room.
- (k) During the Operational Performance Test, if two candidates are present in the room, there must be one examiner for each candidate. Candidates must be advised beforehand if there is to be more than one candidate present and must have the option to be examined on their own. There must be **sufficient physical separation** within the examination room to ensure that a candidate cannot hear instructions to, or responses by, the other candidate.

3.9.3 EXAMINER GUIDELINES

GENERAL

The following guidelines to be followed in conjunction with "Conduct and Invigilation of Examinations".

- (a) All necessary papers required for the examination should be available at least one hour prior to the start of the examination.
- (b) Where candidates are resitting the examination, ensure different papers to those already taken, are available.
- (c) All equipment to be used in the R/T and OPT sections of the examination to be checked and verified to be in working order, at least one hour before the start of each section.
- (d) A check should be made that each candidate holds a course completion certificate.
- (e) Give clear verbal instructions, on Resit Policy, prior to commencement of examination.
- (f) Advise candidates individually, rather than collectively, of result of examination.
- (g) Avoid lengthy discussion of any aspect of failure with a candidate. Information may be passed to the Course Tutor who can then brief the candidate on areas of weakness and the options available.
- (h) Take care in completing the paperwork. Ensure **ALL** marks are entered on the result's sheets.

General Knowledge

- (a) No books or notes allowed in examination room.
- (b) Clean whiteboard/chalkboard. Clock clearly visible to all candidates.
- (c) Explain the conditions of the examination.
- (d) Give warnings of five minutes and two minutes remaining.
- (e) Ensure candidates name on each page of the question paper.
- (f) Marking of papers should be strictly in accordance with model answers.
- (g) Double marking must be carried out, by another examiner, if a candidate's marks are between 42 and 48.

Evidence of double marking must be shown on the script in a different coloured pen.
- (h) Explain how to complete the multi-choice grid, particularly with regard to changing an answer.

R/T COMMUNICATIONS

- (a) Test communications system with all candidates prior to the start of the examination.
- (b) Ensure all clocks are synchronised.

- (c) Ensure candidates have clean log sheets.
- (d) The exercise should follow as natural course of events as possible, rather than a stereotyped script format.
- (e) Transmit a DSC Signal or play a tape of the DSC Signal prior to issuing the DSC Alert information.
- (f) A steady pace with clear diction and use of the phonetic alphabet is desirable.
- (g) The examiner is the control station and should dictate the flow of events, rather than the candidates.
- (h) Allow time at the end of candidate's subsequent responses before transmitting the Seelonce Feenee Broadcast.
- (i) If there is a low number of candidates, the examiner or other members of staff, should act as vessels. **Three vessels**, other than the vessel in distress, are the recommended minimum.
- (j) Examiners should keep a log of the exercise for QA purposes.
- (k) Examiners should highlight both the DSC and Distress Message positions when checking candidates logs.

OPT

The following guidelines to be followed in conjunction with the "Explanatory Guidance Notes for Examiners".

- (a) Ensure all operating instructions are removed from the vicinity of the equipment prior to commencement of the examination.
- (b) Take time to explain the marking system/time allowance to the candidate prior to commencing the tests.
- (c) Keep a close watch on the time taken on each item of equipment by the candidate, bearing in mind the overall maximum time allowance of 90 minutes.
- (d) Avoid the candidate seeing the results of the tests being entered on the sheets.
- (e) Average ability marks should be awarded where candidates struggle to achieve the desired result of a task. It is unreasonable to have candidates achieving over 100 marks yet failing because the 90 minute time limit is exceeded.
- (f) Ensure asterisked tasks cover more than one manufacturer's equipment.
- (g) Where live signals are required for Main Transceiver Tests, 5505.2 kHz is an appropriate station in the UK area giving 24 hour weather information from Shannon by voice. Alternatively, HF Telex Stations can be sourced prior to the commencement of the examination.

- (h) Candidates who are struggling to retrieve information from the Admiralty List of Signals, or the ITU Documents, should not be unduly penalised on the time element, particularly where no shaded box is involved.

3.9.4 IRREGULAR BEHAVIOUR

- (a) In some cases of serious disorderly conduct, the Invigilator may discontinue the examination for the candidate(s) concerned; expel the candidate(s) from the examination room after taking possession of the examination paper, answer sheets, and any material pertaining to the irregularity.

A report in writing, detailing the incident, is required to be communicated to the NAC Manager who will inform the Chief Examiner.

The candidate is to be advised of his/her right of appeal as detailed in Section 3.10.

- (b) When a candidate is found to be in possession of unauthorised material or is suspected of copying, his/her answer sheets must be endorsed by the invigilator as having been used prior to the incident.

The candidate should then be advised that the procedures detailed in Rule 3.10 are to be applied.

- (c) Where an irregularity is detected after an examination has been concluded, full details of the circumstances and all relevant materials must be immediately reported to the NAC Manager who will inform the Chief Examiner.

3.10 APPEALS

3.10.1 STAGE 1

In the event of a candidate being dissatisfied with the services received from an REC, the candidate should, in the first instance, appeal in writing to the REC Coordinator.

3.10.2 STAGE 2

If a satisfactory result is not achieved from the action of 3.10.1 the candidate may write to the NAC Manager. The matter will be investigated by the Chief Examiner whose decision is final and who will report directly to the Executive Committee.

4 GOC LIST OF EQUIPMENT AND SUPPORT MATERIAL

4.1 EQUIPMENT REQUIREMENTS FOR EXAMINATION CENTRES

A centre is required to have installed each of the following items of **MARINE EQUIPMENT** in order to be considered for status as a Regional Examination Centre, Outreach Centre or Overseas Examination Centre:

- (a) Terrestrial transceiver capable of MF/HF operation. Facility to receive live signals.
- (b) VHF transceiver with facilities to receive live signals.
- (c) Navtex receiver.
- (d) Telex installation with ability to prepare and transmit ARO/FEC traffic and interfaced with the equipment in 4.1(a).
- (e) MF/HF/VHF Digital Selective Calling (DSC) encoder/decoder, with facilities to receive live signals.
- (f) Inmarsat- B or Fleet 77 terminal or approved simulator.
- (g) Inmarsat-C terminal or approved simulator.
- (h) Facilities for measuring an Emergency DC supply.
- (i) Two 406 MHz dummy EPIRBs.
- (j) Two 9 GHz dummy SARTs.
- (k) Portable Survival Craft Handheld VHF or dummy.
- (l) Equipment for R/T communications exercise with PTT facilities and live or taped DSC alarm.
- (m) Facilities for testing a fuse.

Alternatively, the following AMERC approved simulators may be used:

- (a) Poseidon Pharos GMDSS Simulator. (Only Versions 6.0.3 or 7.0.1 acceptable).
- (b) Transas 3000 and 4000 series GMDSS simulator

Where full simulation is used, the following MINIMUM requirements must be met:

- One instructor station.
- One trainee station per student consistent with course approval number i.e. course approval for 8 students requires 8 trainee stations.
- One set of hardware control panels per maximum of 8 students.
- Two dummy 9 GHz SARTs.
- Two dummy 406 MHz EPIRBs.
- One **marine** MF/HF receiver with facilities to receive live signals.

Inmarsat only simulators:

The following AMERC approved Inmarsat system simulators may be used:

- (a) Sailcom Inmarsat C Simulator (Version 1.50 or 1.70)
- (b) Transas TGS4100 Tutor – Inmarsat B / C / Fleet 77

Where Inmarsat only simulation is used, the following MINIMUM requirements must be met:

- One simulator station for each simulated Inmarsat system.

4.2 DOCUMENTATION AND SUPPORT MATERIAL

- (a) Sufficient sets of current format Admiralty List of Radio Signals to meet examination requirements as follows:
- Volume 1 *complete set of parts*
 - Volume 5
 - Volume 6 *complete set of parts*
- (b) Sufficient sets of current format ITU Documents to meet examination requirements from *List A or List B* as follows:
- LIST A**
- List of Coast Stations
 - List of Ship Stations
 - List of Call Signs and Numerical Identities
- LIST B**
- List of Ship Stations and Maritime Mobile Service Identity Assignments
 - List of Coast Stations and Special Service Stations

5 GOC EXAMINATION SYLLABUS

The information contained in Sections 5.1 and 5.2 has been extracted from Annex 1 of the text of the recommendation proposed by the Working Group "Radio Regulatory" (RR) for the Harmonised Examination Procedures for the General Operator's Certificate (GOC) – Recommendation T/R 31-03 E (Bonn 1993) – Edition of 1st May 1993 and ERC Decision Annex 1 of ERC/DEC/(99)01 of 10 March 1999.

5.1 EXAMINATION SYLLABUS FOR THE GMDSS GENERAL OPERATOR'S CERTIFICATE (GOC)

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

5.1.1 KNOWLEDGE OF THE GENERAL PRINCIPLES AND BASIC FEATURES OF:

- (a) The Maritime Mobile Service.
- (b) The Maritime Mobile-Satellite Service.

5.1.2 DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION:

- (a) Practical use of the basic equipment of a ship station.
- (b) Digital Selective Calling (DSC).
- (c) General principles of Narrow Band Direct Printing (NBDP) and Telex Over Radio (TOR) Systems. Ability to use maritime NBDP and TOR equipment in practice.
- (d) Usage of Inmarsat Systems. Inmarsat equipment or simulator in practice.
- (e) Fault locating.

5.1.3 OPERATIONAL PROCEDURES AND DETAILED PRACTICAL OPERATION OF GMDSS SYSTEMS AND SUB-SYSTEMS:

- (a) Global Maritime Distress and Safety Systems (GMDSS).
- (b) Inmarsat.
- (c) NAVTEX.
- (d) Emergency Position Indicating Radio Beacons (EPIRBs).
- (e) Search and Rescue Radar Transponder (SART).
- (f) Distress, Urgency and Safety Communication Procedures in the GMDSS.
- (g) Distress, Urgency and Safety communications with non-SOLAS ships which only use radiotelephony

- (h) Search and Rescue Operation (SAR).

5.1.4 MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERAL COMMUNICATIONS:

- (a) Ability to use English Language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea.
- (b) Obligatory procedures and practices.
- (c) Practical and theoretical knowledge of general communication procedures.

5.2 EXAMINATION SYLLABUS GUIDELINES FOR THE GMDSS GOC

5.2.1 KNOWLEDGE OF THE BASIC FEATURES OF THE MARITIME MOBILE SERVICE AND THE MARITIME MOBILE-SATELLITE SERVICE:

- (a) The general principles and basic features of the Maritime Mobile Service:
 - (i) Types of communication in the Maritime Mobile Service:
 - Distress, Urgency and Safety Communications
 - Public Correspondence
 - Port Operation Service
 - Ship Movement Service – Intership Communication
 - Onboard Communication.
 - (ii) Types of station in the Maritime Mobile Service:
 - Ship Stations
 - Coast Stations
 - Pilot Stations, Port Operations Station etc
 - Aircraft Stations
 - Rescue Co-ordination Centre (RCC).
 - (iii) 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 sub-division of the most significant part of the radio spectrum: MF, HF, VHF, UHF, SHF.
 - (iv) Characteristics of frequencies:
 - Different propagation mechanisms: propagation in free space, ground wave, ionospheric propagation
 - Propagation on MF
 - Propagation on different HF bands
 - Propagation on VHF and UHF.

- (v) Knowledge of the role of the various modes of communication:
 - DSC
 - Radiotelephony
 - NBDP
 - Facsimile
 - Data
 - Morse Telegraphy.
- (vi) Knowledge of the different types of modulation and classes of emission:
 - Classes of emission
 - Carrier frequency and assigned frequency
 - Bandwidth of different emissions
 - Official designations of emissions (e.g. F1B, J3E, A3E, A1A, etc.)
 - Unofficial designations of emissions (e.g. TLX, SSB, AM, CW, etc.).
- (vii) Frequencies allocated to the Maritime Mobile Service:
 - The usage of MF, HF, VHF, UHF, and SHF 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 and VHF telephony (relevant appendix of the Radio Regulations), HF NBDP (relevant appendix of 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.
- (b) The general principles and basic features of the Maritime Mobile Satellite Service:
 - (i) Basic knowledge of satellite communications:
 - Inmarsat space segment
 - Modes of communication: telex services, telephone services, data and facsimile communications, store and forward operation
 - Distress and safety communications
 - Inmarsat-A/B communication services
 - Inmarsat-C communication services
 - Inmarsat Enhanced Group Call (EGC) System.
 - Inmarsat-M communication services
 - (ii) Types of station in the Maritime Mobile Satellite Service:
 - Land Earth Station (LES)
 - Network Co-ordination Station (NCS)
 - Mobile Earth Station (MES) Ship Earth Station (SES).

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

- (a) Knowledge of, and ability to use in practice, the basic equipment of a ship station:
 - (i) Watchkeeping Receivers:
 - The controls and usage of VHF DSC watch receiver.
 - The controls and usage of MF DSC watch receiver and MF/HF DSC watch receiver.
 - (ii) VHF Radio Installation:
 - Channels.
 - Controls.
 - Usage.
 - DSC.
 - (iii) MF/HF Radio Installation:
 - Frequencies.
 - Typical controls and usage, e.g. connecting the power, selected Rx/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.
 - (iv) Antennae:
 - Antennae Isolators.
 - VHF Whip Antennae.
 - MF/HF Whip Antennae.
 - MF/HF Wire Antennae.
 - Satellite antennas.
 - (v) Batteries:
 - Types of Marine Batteries and their Characteristics.
 - Charging.
 - Maintenance of Batteries.
 - UPS Systems
 - (vi) Survival Craft Radio Equipment:
 - Portable Two-Way VHF Radiotelephone Apparatus.
 - SART.
 - EPIRB.
- (b) Digital Selecting Calling:
 - (i) Call Format Specifier:
 - Distress Call.
 - All Ships Call.
 - Call to Individual Station.
 - Geographical Area Call.

- Group Call.
 - Automatic, Semi-Automatic Service.
- (ii) Call Address Selection with the MMSI Number System:
 - The Nationality Identification.
 - Group Calling Numbers.
 - Coast Station Numbers.
 - Ship Station Numbers.
- (iii) Call Categorisation:
 - Distress.
 - Urgency.
 - Safety.
 - Other Communications.
- (iv) Call Telecommand and Traffic Information:
 - Distress Alerts.
 - Other Calls.
 - Working Frequency Information.
- (c) Knowledge of the General Principles of NBDP and TOR Systems.
 - Ability to use Maritime NBDP and TOR Equipment in practice:
 - (i) NBDP Systems:
 - Automatic Systems.
 - Semi-Automatic Systems.
 - Manual Systems.
 - ARQ, FEC Modes.
 - ISS/IRS Arrangement.
 - Master and Slave.
 - Radio Telex Number.
 - Answerback.
 - Numbering of the SSFC Selective Calling System.
 - (ii) TOR Equipment (Telex Over Radio):
 - Controls and Indicators.
 - Keyboard Operation.
- (d) Knowledge of the Usage of Inmarsat Systems. Ability to use Inmarsat Equipment or Simulator in Practice:
 - (i) Inmarsat B/Fleet 77 Mobile (Ship) Earth Station.
 - Satellite Acquisition.
 - Telex Services.
 - Telephone Services.
 - Data and Facsimile Communications.
 - (ii) Inmarsat-C Mobile (Ship) Earth Station.
 - Components of an Inmarsat-C Terminal.

- Entering and Updating Position.
- Usage of an Inmarsat-C MES (SES).
- Sending and Receiving Text Messages.
- (iii) Inmarsat EGC Receiver.
 - Pre-programming an MES (SES) for EGC Message Reception.
 - Selecting Operating mode for EGC reception.
- (e) Fault Locating:
 - Proficiency in Elementary Fault Localisation by means of built-in Instruments or Software in accordance with Equipment Manuals.
 - Elementary Fault Diagnosis and Repair such as Replacement of Fuses, Indicator Lamps, Antenna Maintenance.

5.2.3 OPERATIONAL PROCEDURES AND DETAILED PRACTICAL OPERATION OF GMDSS SYSTEM AND SUB-SYSTEMS.

- (a) Global Maritime Distress and Safety System (GMDSS):
 - (i) Sea Areas and the GMDSS Master Plan.
 - (ii) Watchkeeping on Distress Frequencies.
 - (iii) Functional Requirements of Ship Stations.
 - (iv) Carriage Requirements of Ship Stations.
 - (v) Sources of Energy of Ship Stations.
 - (vi) Means of Ensuring Availability of Ship Station Equipment.
 - (vii) Licences, Radio Safety Certificates, Inspections and Surveys.
- (b) Inmarsat Usage in the GMDSS:
 - (i) Inmarsat B/Fleet 77 MES (SES):
 - Distress Communications: Use of Distress Facility, Satellite Acquisition, Telex and Telephony Distress Calls, Procedures for Distress Calls, Rescue Co-ordination Centres associated with CESs.
 - (ii) Inmarsat-C MES (SES):
 - Distress and Safety Services: Designated and Undesignated Distress Alert, Distress Priority Message, 2-Digit Code Service Codes.
 - (iii) Inmarsat EGC:
 - Purpose of the EGC System:
 - All-Ships Messages and Inmarsat System Messages, Classes of Inmarsat-C SES and their EGC reception.
- (c) NAVTEX:
 - (i) The Navtex System:
 - Purpose of Navtex.
 - Navtex Frequencies.
 - Reception Range.
 - Message Format (Transmitter ID, Message Type, Message Number).
 - (ii) Navtex Receiver:

- Selection of Transmitters.
- Selection of Message Types.
- Messages which cannot be rejected.
- Use of Operator Controls and Changing Paper.
- (d) Emergency Position Indicating Radio Beacons (EPIRBs):
 - (i) Satellite EPIRBs:
 - Basic Characteristics and Operation of 406 MHz and 1.6 GHz.
 - 121.5 MHz EPIRBs 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.
 - (ii) VHF DSC EPIRB:
 - Basic Characteristics of operation on Ch 70.
- (e) Search and Rescue Radar Transponder (SART):
 - Primary Technical Characteristics.
 - Operation.
 - Range of a SART Transmitter.
 - Testing and Checking Battery Expiry Date.
- (f) Distress, Urgency and Safety Communication Procedures in the GMDSS:
 - (i) Distress Communications:
 - DSC Distress Alert:
 - Definition of Distress Alert.
 - Transmission of Distress Alert.
 - Transmission of Shore-to-Ship Distress Relay.
 - Transmission of Distress Alert by Station not itself in Distress.
 - Receipt and Acknowledgement of a DSC Distress Alert:
 - Acknowledgement Procedures by Radiotelephony.
 - Acknowledgement Procedures by NBDP.
 - Receipt and Acknowledgement by a Coast Station.
 - Receipt and Acknowledgement by 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.
 - (ii) Urgency and Safety Communications:
 - The Meaning of Urgency and Safety Communications.

- Procedures for DSC Urgency and Safety Calls.
- Urgency Communications.
- Radio Medical services, Medical transports.
- Safety Communications.
- (iii) Radiotelephony Communications with Non-GMDSS Stations:
 - 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.
 - Safety Signal.
- (iv) Reception of Maritime Safety Information (MSI):
 - Reception by NAVTEX, Inmarsat EGC, HF NBDP.
 - The Navigational Warning Signal of the Old Distress and Safety System.
 - The Navigational Warnings Transmitted by Radiotelephony.
- (v) Protection of Distress Frequencies:
 - Guard Bands.
 - Tests on Distress Frequencies.
 - Transmissions during Distress Traffic.
 - Avoiding Harmful Interference.
 - Prevention of Unauthorised Transmissions.
- (g) Search and Rescue Operation (SAR):
 - (i) The Role of RCCs.
 - (ii) International Aeronautical and Maritime Search and Rescue Manual (IAMSAR).
 - (iii) Maritime Rescue Organisations.
 - (iv) Ship Reporting Systems.

5.2.4 MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERAL COMMUNICATIONS:

- (a) Ability to use English Language, both written and spoken, for the Satisfactory Exchange of Communications relevant to the Safety of Life at Sea:
 - (i) Use of the International Code of Signals and the IMO Standard Marine Navigational Vocabulary/Seaspeak.
 - (ii) Recognised Standard Abbreviations and Commonly Used Service Codes.
 - (iii) Use of International Phonetic Alphabet.
- (b) Obligatory Procedures and Practices:
 - (i) Effective Use of Obligatory Documents and Publications.
 - (ii) Radio Record Keeping.

- (iii) Knowledge of the Regulations and Agreements Governing the Maritime Mobile Service and the Maritime Mobile-Satellite Service.
- (c) Practical and Theoretical Knowledge of General Communication Procedures:
 - (i) Selection of Appropriate Communication Methods in Different Situations.
 - (ii) Traffic Lists.
 - (iii) Radiotelephone Call:
 - Method of Calling a Coast Station by Radiotelephony.
 - Ordering for Manually Switched Link Call. Ending the Call.
 - Special Facilities of Calls.
 - Method of Calling a Coast Station by DSC.
 - Selecting an Automatic Radiotelephone Call.
 - (iv) Radiotelegram:
 - The Parts of a Radiotelegram:
 - Preamble
 - Service Instructions and Indications
 - Address, Text, Signature.
 - Addresses:
 - Full Address
 - Registered Address
 - Telephonic Address
 - Telex Address.
 - Word Count.
 - Transmission of a Telegram by Radiotelephony.
 - Transmission of a Telegram by Radiotelex.
 - (v) Traffic Charges:
 - International Charging System.
 - Inmarsat Communications Charging System.
 - AAIC Code.
 - The Meaning of Land Line (LL), Coast Station (CS) and Ship Station (SS) charges.
 - Currencies used in International Charging.
 - (vi) Practical Traffic Routines.
 - (vii) World Geography, especially the Principle Shipping Routes and Related Communication Routes.

5.3 CONDITIONS OF THE AWARDS

The GMDSS General Operator's Certificate (GOC) will be awarded to applicants who have, by means of satisfactorily completing the appropriate standard written and practical tests, demonstrated their knowledge and ability in the area detailed in Sections 5.1 and 5.2.

6 RESTRICTED OPERATOR CERTIFICATE (ROC) EXAMINATION PROCEDURES

6.1 GENERAL

Examinations for GMDSS Certificates are usually made available subject to demand. Although every effort is made by RECs to accommodate the requirements of candidates and Examination Centres, notice of one working week is normally required.

6.2 GUIDE TO APPLICANTS

6.2.1 STUDY REQUIREMENTS

ROC Candidates are required to undertake an MCA approved course of study and obtain a course completion certificate prior to the examination (see 2.3.4).

6.2.2 APPLICATION

Any individual, or company, requiring assessment for the examination should make application to the REC of their choice.

6.2.3 NATIONALITY

There is no nationality requirement in respect of ROC certificates issued by the UK Administration

6.2.4 AGE RESTRICTIONS

Certificates cannot be issued to candidates under the age of 18 years.

6.2.5 CONDITIONS

Each candidate is required to:

- a) Complete an Examination Application Form.
- b) Supply TWO passport photographs meeting the requirements of the UK Identity and Passport Service
- c) Pay the appropriate fee.
- d) Provide a valid Course Completion Certificate from an MCA approved course of study

6.3 LOCATION AND ARRANGEMENTS

6.3.1 REC EXAMINATION

Examinations are normally conducted at the REC and arranged between the hours of 09.00 and 17.00, Monday to Friday.

6.3.2 OUTREACH EXAMINATION

In conducting Examinations at Outreach and overseas examination centres, the minimum requirement is that the place of examination must have a FULL GMDSS equipment fit as per Section 7.1. Although every effort is made by RECs to accommodate the requirements of candidates and Centres, the provision of this service will be agreed between the parties for provision at a mutually convenient date. Generally as a minimum, notice of one working week is required to offer this service in the United Kingdom and two working weeks for centres overseas. Additional costs incurred at UK Outreach Centres for this service are detailed in Section 6.4.5. Additional costs at Overseas Examination and Overseas Outreach Centres are by mutual agreement between the REC intending to provide the examination service and the Centre.

6.4 FEES AND EXPENSES

GMDSS Examination fees are VAT exempt.

6.4.1 GENERAL

Examination fees are set annually after joint consultation between AMERC and the MCA. The fee for conducting GMDSS examination includes payment for each of the following elements:

Examiner's fee (UK only).

NAC certificate administration fee.

REC facility fee (UK only).

MCA fee.

AMERC administration fee.

6.4.2 PAYMENT OF EXAMINATION FEE

The following methods of payment are acceptable:-

- Cash
- Bank Card (subject to bank commission charge)
- UK Postal Order
- Cheque

NB: cheques to be made payable to AMERC Ltd. NAC (GMDSS) drawn in £ sterling on a bank in the UK and supported by a Cheque Guarantee Card .

- BACs
UK A/C no. 297692 48 Sort Code 60-60-05 A/C Name The Wray Castle Educational Trust Re AMERC NAC (GMDSS), National Westminster Bank PLC, Leeds City Office, 8 Park Row, Leeds LS1 1QS.

(International IBAN Code GB53 NWBK 6060 0529 7692 48 B/C Code NWBK GB 2L)

NB Bank commission charges should be covered by the sender. AMERC will not process certificates until the full amount is received.

It is desirable that the REC covers payments for all examinations. Should a cheque from a candidate be referred, then payment will be requested from the REC. In such a case the certificate will be sent to the REC and not directly to the candidate.

6.4.3 RESTRICTED OPERATOR'S CERTIFICATE (ROC) EXAMINATION FEES

Examination fees are VAT exempt.

The examination fee for the CEPT Restricted Operator's Certificate (ROC) is £95.00. Overseas RECs, Overseas Examination and Overseas Outreach Centres pay £66.00 to AMERC NAC but may charge the candidate up to a maximum of £95.00 to cover additional expenses.

6.4.4 EXAMINATION HELD AT REC

Examination fee as stated in 0 with no additional expenses incurred.

6.4.5 UK OUTREACH EXAMINATION (LOCATION OTHER THAN REC)

GMDSS ROC outreach candidates are required to pay the examination fee stated in 0 PLUS:

- (i) travel expenses, negotiated in advance between Examiner and candidates.
- (ii) at the discretion of the REC, captive time fee of £16.00 per hour for examiner's travelling time

6.5 EXAMINATION FORMAT

6.5.1 GENERAL

All component parts of the examination must be conducted in the **English Language**.

Normally, an examiner may **NOT** conduct an examination on subjects, which they have taught the candidate. Under exceptional circumstances where a lecturer may have to act as examiner, permission should be sought from the NAC/Chief Examiner prior to the examination. Details of the exceptional circumstances must be communicated to the NAC (on page 2 of the candidate's application form).

6.5.2 GMDSS RESTRICTED OPERATOR'S CERTIFICATE

(a) Each REC keeps a bank of examination papers to be used in rotation. New examination papers are prepared at the Examiners' Panel meeting.

(b) The exam consists of THREE elements:

(i) SOLAS may be either written or oral examination, the duration of which is at the discretion of the examiner. There are TWO sections

Section 1 ONE question 10 marks

Section 2 FOURTEEN questions with 1 mark per question

For a candidate to obtain a pass a total of 18 out of a possible 24 marks must be achieved.

When the examination is conducted orally, questions should be read out exactly as written a maximum of twice; if a question has to subsequently rephrased, a maximum of 50% of the total marks for the question may be awarded.

Reasons for marks being deducted should be written on the examination paper in the space provided.

(ii) Radio Regulations/Operational performance Test on marine radio equipment.

Examination is typically 45 minutes for each candidate.

Pass mark is 54/72.

(iii) Radiotelephony Distress Communications working of simulated operating procedures in respect of SOLAS.

Examination time for six candidates approximately 30 minutes.

Pass mark of 36/48.

(c) Examination sequence for assessing each element is at the discretion of each REC.

(d) The examination may be conducted by one or more Examiners.

6.6 ISSUE OF CERTIFICATES

On receipt of examination application forms and result of any assessments from the REC, the NAC records the details on a database, files the forms and issues certificates directly to successful candidates. This procedure will normally be completed within two weeks.

6.7 EXEMPTIONS

The holder of a GMDSS LRC and a STCW Navigation Watch Keeping Certificate may apply to the MCA for a form to apply for a GMDSS ROC, otherwise no exemptions exist for any part of the examination

6.8 RE-ASSESSMENT

6.8.1 RESIT REQUIREMENTS

- (a) At the discretion of the REC, candidates may only require to resit failed sections of the exam providing:
- (i) re-assessment is conducted at the same REC.
 - (ii) re-assessment occurs within seven working days of original examination date. (N.B. for a candidate, at a new Overseas REC within their probationary period, whose result has been amended, the seven working days commences upon receipt of the confirmed result. Any exemption will be at discretion of Chief Examiner)
 - (iii) the FULL examination fee is paid irrespective of the number of sections to be retaken.
 - (iv) in the case of a candidate obtaining a MINIMUM mark of 54/72 in the Regulation/OPT examination but failing the examination due to a Shaded Box Entry, one resit may be granted covering only that equipment section in which the Shaded Box entry has been made. The original overall Regulations/OPT mark should be entered on the resit form, together with a Pass or Fail grade.

In the event of the candidate failing the resit, subsequent resit attempts should cover the complete OPT examination.

- (b) In the case of a candidate resitting the examination eight working days, or more, after the original examination date the candidate is required to:
- (i) resit ALL SECTIONS of the examination.
 - (ii) pay the FULL examination fee.

6.8.2 REASSESSMENT TIME LIMITATIONS

Candidates may be allowed a maximum of one resit on the day of the examination, thereafter 24 hours should elapse before any further attempt.

6.8.3 NON-REPETITION OF EXAMINATION PAPERS

Candidates who intend to resit the SOLAS, Radio Regulation or R/T Communications examination are to be given a different examination paper on each occasion. The GMDSS Chief Examiner is to be consulted in the event of all examination papers having been attempted by the candidate.

6.8.4 REPEAT EXAMINATIONS AT ANOTHER REC

A candidate who wishes to resit the examination at another REC is required to resit ALL SECTIONS of the examination and pay the FULL examination fee.

6.9 CONDUCT AND INVIGILATION OF EXAMINATIONS

6.9.1 APPOINTMENT OF INVIGILATORS.

Invigilators MUST be approved by the REC

6.9.2 INSTRUCTIONS FOR INVIGILATORS

- (a) An Invigilator must be continuously present during the examination.
- (b) The examination room should be quiet at all times. Measures should be taken to prevent interruptions during the examination. Watches and calculators must be silent in operation.
- (c) Mobile Phones are not permitted in the examination room.
- (d) A check should be made that each candidate holds a course completion certificate.
- (e) A clock should be clearly visible to all candidates.
- (f) Each candidate should provide his/her own writing implements.
- (g) No unauthorised paper is allowed on the candidate's desk. Possession of unauthorised items will render a candidate liable to disqualification.
- (h) All candidates should be seated five minutes before the start time of the examination.
- (i) Candidates arriving after the start of the examination will not be allowed to enter the room.
- (j) Candidates who leave the examination room before the end of the examination will NOT be permitted to re-enter the room or continue the examination. In this case the question and answer sheets will be given to the Invigilator before leaving the room.
- (k) During the Operational Performance Test if two candidates are present in the room there must be one examiner for each candidate. Candidates must be advised beforehand if there is to be more than one candidate present and must have the option to be examined on their own. There must be sufficient physical separation within the examination room to ensure that a candidate cannot hear instructions to, or responses by, the other candidate.

6.9.3 EXAMINER GUIDELINES

GENERAL

The following guidelines to be followed in conjunction with "Conduct and Invigilation of Examinations".

- (a) All necessary papers required for the examination should be available at least one hour prior to the start of the examination.

- (b) Where candidates are resitting the examination, ensure different papers to those already taken, are available.
- (c) All equipment to be used in the R/T and OPT sections of the examination to be checked and verified to be in working order, at least one hour before the start of each section.
- (d) A check should be made that each candidate holds a course completion certificate.
- (e) Give clear verbal instructions, on Resit Policy, prior to commencement of examination.
- (f) Advise candidates individually, rather than collectively, of result of examination.
- (g) Avoid lengthy discussion of any aspect of failure with a candidate. Information may be passed to the Course Tutor who can then brief the candidate on areas of weakness and the options available.
- (h) Take care in completing the paperwork. Ensure **ALL** marks are entered on the result's sheets.

SOLAS

- (a) No books or notes allowed in examination room.
- (b) Clean whiteboard/chalkboard. Clock clearly visible to all candidates.
- (c) Explain the conditions of the examination.
- (d) Give warnings of time remaining.
- (e) Ensure candidates name on each page of the question paper.
- (f) Marking of papers should be strictly in accordance with model answers.
- (g) Double marking must be carried out, by another examiner, if a candidate's marks are between 31 and 35.

Evidence of double marking must be shown on the script in a different coloured pen.

R/T COMMUNICATIONS

- (a) Test communications system with all candidates prior to the start of the examination.
- (b) Ensure all clocks are synchronised.
- (c) Ensure candidates have clean log sheets.
- (d) The exercise should follow as natural course of events as possible, rather than a stereotyped script format.
- (e) Transmit a DSC Signal or play a tape of the DSC Signal prior to issuing the DSC Alert information.
- (f) A steady pace with clear diction and use of the phonetic alphabet is desirable.

- (g) The examiner is the control station and should dictate the flow of events, rather than the candidates.
- (h) Allow time at the end of candidate's subsequent responses before transmitting the Seelonce Feenee Broadcast.
- (i) If there is a low number of candidates, the examiner or other members of staff, should act as vessels. **Three vessels**, other than the vessel in distress, are the recommended minimum.
- (j) Examiners should keep a log of the exercise for QA purposes.
- (k) Examiners should highlight both the DSC and Distress Message positions when checking candidates logs.

OPT/Regulations

The following guidelines to be followed in conjunction with the "Explanatory Guidance Notes for Examiners".

- (a) Ensure all operating instructions are removed from the vicinity of the equipment prior to commencement of the examination.
- (b) Take time to explain the marking system/time allowance to the candidate prior to commencing the tests.
- (c) Keep a close watch on the time taken on each item of equipment by the candidate and, if struggling badly, move them on to the next equipment.
- (d) Avoid the candidate seeing the results of the tests being entered on the sheets.
- (e) Average ability marks should be awarded where candidates struggle to achieve the desired result of a task.
- (f) Ensure asterisked tasks cover more than one manufacturer's equipment.
- (g) Candidates who are struggling to retrieve information from the Admiralty List of Signals, or the ITU Documents, should be moved on to the next task, particularly where no shaded box is involved.

6.9.4 IRREGULAR BEHAVIOUR

- (a) In cases of serious disorderly conduct the invigilator may discontinue the examination for the candidate(s) concerned, expel the candidate(s) from the examination room after taking possession of the examination paper, answer sheets, and any material pertaining to the irregularity.

A report in writing, detailing the incident, is required to be communicated to the NAC Manager who will inform the Chief Examiner.

The candidate is to be advised of his/her right of appeal as detailed in Section 3.10.

- (b) When a candidate is found to be in possession of unauthorised material or is suspected of copying, his/her answer sheets must be endorsed by the invigilator as having been used prior to the incident.

The candidate should then be advised that the procedures detailed in Rule 3.10. are to be applied.

- (c) Where an irregularity is detected after an examination has been concluded, full details of the circumstances and all relevant materials must be immediately reported to the NAC Manager who will inform the Chief Examiner.

6.10 APPEALS

6.10.1 STAGE 1

In the event of a candidate being dissatisfied with the services received from an REC, the candidate should, in the first instance, appeal in writing to the REC Co-ordinator.

6.10.2 STAGE 2

If a satisfactory result is not achieved from the action of 3.10.1 the candidate may write to the NAC Manager. The matter will be investigated by the Chief Examiner whose decision is final and who will report directly to the Executive Committee.

7 ROC LIST OF EQUIPMENT AND SUPPORT MATERIAL

7.1 EQUIPMENT REQUIREMENTS FOR EXAMINATION CENTRES

A centre is required to have installed each of the following items of **MARINE EQUIPMENT** in order to be considered for status as a Regional Examination Centre, Outreach Centre or Overseas Examination Centre.

- (a) VHF transceiver with facilities to receive live signals.
- (b) Navtex receiver.
- (c) VHF Digital Selective Calling (DSC) encoder/decoder, with facilities to receive live signals.
- (d) Facilities for measuring an Emergency DC supply.
- (e) Two 406 MHz dummy EPIRBs.
- (f) Two 9 GHz dummy SARTs.
- (g) Portable Survival Craft Handheld VHF or dummy.
- (h) Equipment for R/T communications exercise with PTT facilities and live or taped DSC alarm.
- (i) Facilities for testing a fuse.

Alternatively, the following AMERC approved simulators may be used:

- (a) Poseidon Pharos GMDSS Simulator. (Only Versions 6.0.3 or 7.0.1 acceptable).
- (b) Transas 3000 and 4000 series GMDSS simulator

Where full simulation is used, the following MINIMUM requirements must be met:

- One instructor station.
- One trainee station per student consistent with course approval number i.e. course approval for 8 students requires 8 trainee stations.
- One set of hardware control panels per maximum of 8 students.
- Two dummy 9 GHz SARTs.
- Two dummy 406 MHz EPIRBs.
- One **marine** VHF transceiver with facilities to receive live signals.

7.2 DOCUMENTATION AND SUPPORT MATERIAL

- (a) Sufficient sets of current format Admiralty List of Radio Signals to meet examination requirements as follows:
- Volume 1 *part 1 or 2*
 - Volume 5
 - Volume 6 *part 1 or 2*
- (b) Sufficient sets of current format ITU Documents to meet examination requirements from *List A or List B* as follows:
- LIST A**
- List of Coast Stations
 - List of Ship Stations
 - List of Call Signs and Numerical Identities
- LIST B**
- List of Ship Stations and Maritime Mobile Service Identity Assignments
 - List of Coast Stations and Special Service Stations

8 ROC EXAMINATION SYLLABUS

The information contained in sections 8.1 and 8.2 has been extracted from Annex 1 of the text of the recommendation proposed by the Working Group "Radio Regulatory" (RR) for the Harmonised Examination Procedures for the Restricted Operators Certificate (ROC)- Recommendation T/R 31-03 E (Bonn 1993)- edition of May 1, 1993 and ERC Decision Annex 1 of ERC/DEC/(99)01 of 10 March 1999.

8.1 EXAMINATION SYLLABUS FOR GMDSS RESTRICTED OPERATOR'S CERTIFICATE

- A. Knowledge of the basic features of the Maritime Mobile Service
- B. Detailed practical knowledge and ability to use the basic communications equipment of a ship station :
 - B1 Use, in practice, the basic communications equipment of a ship station.
 - B2 Digital Selective Calling.
- C. Operational procedures and detailed practical operation of GMDSS system and sub-systems.
 - C1 Global Maritime Distress and Safety Systems (GMDSS).
 - C2 NAVTEX.
 - C3 Emergency Position Indicating Radio Beacons (EPIRBs).
 - C4 Search And Rescue Radar Transponder (SART).
 - C5 Distress, Urgency and Safety communications procedures in the GMDSS.
 - C6 Distress, Urgency and Safety Communications with Non-SOLAS ships which use radiotelephony.
 - C7 Search And Rescue operation (SAR).
- D. Miscellaneous skills and operational procedures for general communications.
 - D1 Ability to use the English Language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea.
 - D2 Obligatory procedures and practice.
 - D3 Practical and theoretical knowledge of general communications procedures.

8.2 EXAMINATION SYLLABUS GUIDELINES FOR ROC CERTIFICATE

- A. Knowledge of the basic features of the Maritime Mobile Service
- 1.1. Types of communications in the Maritime Mobile Service:-
distress, urgency and safety communications.
public correspondence.
port operations service.
ship movement service.
intership communications.
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 co-ordinating centres (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 un-paired frequencies.
frequency plan for VHF telephony (relevant appendix of Radio Regulations).
GMDSS distress and safety frequencies.
calling frequencies.
- B. Detailed practical knowledge and ability to use the basic communications 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 antennas.
antennas for the NAVTEX system.

- 1.3. Batteries:-
types of batteries and their characteristics.
charging.
maintenance of batteries.
UPS systems.
- 1.4. Survival craft communications 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.
geographical area call.
group call.
automatic/semi-automatic service.
- 2.2. Call address selection with the MMSI number system:-
the nationality identifier.
group calling numbers.
coast station numbers.
Ship station numbers.
- 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 sub-systems.

C1 Global Maritime Distress and Safety System (GMDSS).

- 1.1. Sea areas and the GMDSS master plan.
- 1.2. Watch keeping on VHF distress frequencies.
- 1.3. Functional requirements of ship station sailing within the limits of sea area A1.
- 1.4. Carriage requirements of ship station sailing within the limits of sea area A1.
- 1.5. Sources of energy of ship stations.
- 1.6. Means of ensuring the availability of ship station equipment.
- 1.7. Licenses, radio safety certificate, 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. The NAVTEX receiver:-
 - selection of transmitters.
 - selection of message type.
 - messages which cannot be rejected.
 - use of subsidiary controls and changing paper.

C3. Emergency Position Indicating Beacons (EPIRBs).

- 3.1. Satellite EPIRBs:-
 - basic characteristics of operation on 406 MHz.
 - basic characteristics of operation on 1.6 GHz.
 - 121.5 MHz beacons including homing functions.
 - information contents of a distress alert.
 - manual usage.
 - float-free function.
 - routine maintenance:-
 - testing.
 - checking battery expiry date.
 - cleaning of float-free release mechanism.
- 3.2. VHF DSC EPIRBs.
 - Basic characteristics of operation on Ch 70.

C4 Search And Rescue Radar Transponder (SART).

- 4.1. Search And Rescue Radar Transponder (SART):-

main technical characteristics.
operation.
range of SART transmitter.
routine maintenance of SART:-
checking battery expiry date.

C5 Distress Urgency and Safety 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 a DSC alert:-
acknowledgement procedures.
receipt and acknowledgement by a coast station.
receipt and acknowledgement by a ship station.
handling of distress alerts:-
preparation for handling of distress traffic.
distress traffic terminology.
testing DSC distress and safety systems.
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.
Radio medical services.
medical transports.
safety communications.

5.3 Reception of Maritime Safety Information (MSI):-

reception by NAVTEX.
navigational warnings transmitted by radiotelephony.

5.4 Protection of distress frequencies:-

guard bands.
tests on distress frequencies.
transmissions during distress traffic.
avoidance of harmful interference.
prevention of unauthorised transmissions.

- C6 Distress, Urgency and Safety Communications with Non-SOLAS ships which use radiotelephony.**
- 6.1 Distress signal
 - 6.2 Distress call
 - 6.3 Distress message
 - 6.4 Acknowledgement of a distress message
 - 6.5 Distress traffic terminology
 - 6.6 Urgency signal
 - 6.7 Medical advice
 - 6.8 Safety signal
- C7 Search And Rescue operation (SAR).**
- 7.1 The role of RCCs.
 - 7.2 International Aeronautical and Maritime Search and Rescue Manual (IAMSAR).
 - 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 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 practice:-**
- 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 communications procedures.**
- 3.1 Traffic lists.
 - 3.2 Radiotelephone call:-
 - method of calling a coast station by radiotelephony.
 - ordering for a manually switched link call.
 - ending a call.
 - special facilities call.
 - method of calling a coast station by DSC.
 - selecting an automatic radiotelephone call.
 - 3.3 Traffic charges:-
 - international charging systems.
 - AAIC code.

currencies used in international charging.

the meaning of land line (LL) coast station (CS) and ship station (SS) charge.

3.4 Practical traffic routing.

3.5 Principal shipping routes and related communications routes appropriate for ships sailing within the limits of area A1.

8.3 CONDITIONS OF THE AWARDS

The GMDSS Restricted Operator's Certificate (ROC) will be awarded to applicants who have, by means of satisfactorily completing the appropriate standard written and practical tests, demonstrated their knowledge and ability in the areas detailed in Section 8.1

9 LONG RANGE CERTIFICATE (LRC) EXAMINATION PROCEDURES

9.1 GENERAL

Examinations for GMDSS Certificates are usually made available subject to demand. Although every effort is made by RECs to accommodate the requirements of candidates, notice of one working week is normally required.

9.2 GUIDE TO APPLICANTS

9.2.1 STUDY REQUIREMENTS

It is recommended that candidates undertake a course of study prior to the examination.

9.2.2 APPLICATION

Any individual, or company, requiring assessment for the examination should make application to the REC of their choice.

9.2.3 NATIONALITY

There is no nationality requirement in respect of LRC certificates issued by the UK Administration.

9.2.4 AGE RESTRICTIONS

Certificates can not be issued to candidates under the age of 16 years.

9.2.5 CONDITIONS

Each candidate is required to:

- (a) Complete an Examination Application Form.
- (b) Supply TWO passport photographs meeting the requirements of the UK Identity and Passport Service
- (c) Pay the appropriate fee

9.3 LOCATION AND ARRANGEMENTS

9.3.1 REC EXAMINATION

Examinations are normally conducted at the REC and arranged between the hours of 09.00 and 17.00, Monday to Friday.

9.3.2 UK OUTREACH EXAMINATION

In conducting Examinations at Outreach and overseas examination centres, the minimum requirement is that the place of examination must have a FULL GMDSS equipment fit as per Section 10.1. Although every effort is made by RECs to accommodate the requirements of candidates and Centres, the provision of this service will be agreed between the parties for provision at a mutually convenient date. Generally as a minimum, notice of one working week is required to offer this service in the United Kingdom and two working weeks for centres overseas. Additional costs incurred at UK Outreach Centres for this service are detailed in Section 9.4.5. Additional costs at Overseas Examination and Overseas Outreach Centres are by mutual agreement between the REC intending to provide the examination service and the Centre.

9.4 FEES AND EXPENSES

GMDSS Examination fees are VAT exempt.

9.4.1 GENERAL

Examination fees are set annually after joint consultation between AMERC and the MCA. The fee for conducting GMDSS examination includes payment for each of the following elements:

- Examiner's fee.
- NAC certificate administration fee.
- REC facility fee.
- MCA fee.
- AMERC administration fee.

9.4.2 PAYMENT OF EXAMINATION FEE.

The following methods of payment are acceptable:-

- Cash
- Bank Card (subject to bank commission charge)
- UK Postal Order
- Cheque
NB: cheques to be made payable to AMERC Ltd. NAC (GMDSS) drawn in £ sterling on a bank in the UK and supported by a Cheque Guarantee Card .
- BACs
UK A/C no. 297692 48 Sort Code 60-60-05 A/C Name The Wray Castle Educational Trust Re AMERC NAC (GMDSS), National Westminster Bank PLC, Leeds City Office, 8 Park Row, Leeds LS1 1QS.

(International IBAN Code GB53 NWBK 6060 0529 7692 48 B/C Code NWBK GB 2L)

NB Bank commission charges should be covered by the sender. AMERC will not process certificates until the full amount is received.

It is desirable that the REC covers payments for all examinations. Should a cheque from a candidate be referred, then payment will be requested from the REC. In such a case the certificate will be sent to the REC and not directly to the candidate.

9.4.3 LONG RANGE CERTIFICATE (LRC) EXAMINATION FEES

Examination fees are VAT exempt.

- (a) Long Range Radiotelephone Operator's Certificate of Competence.
The examination fee for the CEPT Long Range Certificate (LRC) is £95.00.
- (b) Satellite Module.
 - (i) Candidates may choose to be examined for this Module while undertaking the examination of the LRC at no additional charge.
 - (ii) The examination fee for this Module if taken separately is £40.00.

9.4.4 EXAMINATION HELD AT REC

Examination fee as stated in 0 with no additional expenses incurred.

9.4.5 UK OUTREACH EXAMINATION (LOCATION OTHER THAN REC)

GMDSS LRC outreach candidates are required to pay the examination fee stated in 0 PLUS:

- (i) travel expenses, negotiated in advance between Examiner and candidates.
- (ii) at the discretion of the REC, captive time fee of £16 per hour for examiner's travelling time.

9.5 EXAMINATION FORMAT

9.5.1 GENERAL

All component parts of the examination must be conducted in the **English Language**.

Normally, an examiner may **NOT** conduct an examination on subjects, which they have taught the candidate. Under exceptional circumstances where a lecturer may have to act as examiner, permission should be sought from the NAC/Chief Examiner prior to the examination. Details of the exceptional circumstances must be communicated to the NAC (on page 2 of the candidate's application form).

9.5.2 CEPT LONG RANGE RADIOTELEPHONE OPERATOR'S CERTIFICATE OF COMPETENCE (LRC).

When the examination is conducted orally, questions should be read out exactly as written, a maximum of two times.

If a question has to be subsequently rephrased, a maximum of 50% of the total marks may be awarded.

Reasons for mark deductions should be indicated in the answer space provided; only the mark for correct answers is required to be written alongside the question.

- (a) Each REC keeps a bank of examination papers to be used in rotation. New examination papers are prepared at the annual Examiners' Panel meeting.
- (b) The exam consists of FOUR elements:
 - (i) SOLAS may be either a written or oral examination comprising 11 questions, the duration of which is left to the Examiner's discretion. Question 1 is marked out of 8 marks while the remaining ten questions carry 4 marks each. To achieve a pass the candidate must obtain 36 out of a total marks 48.

Pass mark is 75%.
 - (ii) Radio Regulations may be either a written or oral examination comprising 10 multiple-choice questions, the duration of which left to the Examiner's discretion.

Pass mark is 60%.
 - (iii) Operational Performance Test on Marine Radio equipment

Examination time is typically 45 minutes for each candidate.

Pass mark is 70%.
 - (iv) Radiotelephony Communications Examination of simulated operating procedures in respect of SOLAS.

Examination time for 6 candidates approximately 30 minutes.

Pass mark of 75%.

Examination sequence for assessing each element is at the discretion of each REC.

The examination of each element may be conducted by one or more Examiners.

9.5.3 EXAMINATION FORMAT FOR LRC SATELLITE MODULE

All component parts of the examination must be conducted in the **English Language**.

Except under exceptional circumstances, an examiner may NOT conduct an examination on subjects which they have taught the candidate. Details of the exceptional circumstances must be communicated to the NAC (on page 2 of the candidate's application form).

9.5.4 CEPT LRC SATELLITE MODULE

When the examination is conducted orally, questions should be read out exactly as written, a maximum of two times.

If a question has to be subsequently rephrased, a maximum of 50% of the total marks may be awarded.

Reasons for mark deductions should be indicated in the answer space provided; only the mark for correct answers is required to be written alongside the question.

- (a) Each REC keeps a bank of examination papers to be used in rotation. New examination papers are prepared at the annual Examiners' Panel meeting.
- (b) The exam consists of TWO elements:
 - (i) A SOLAS paper of five questions that may be either a written or oral examination, the duration of which is left to the Examiner's discretion. For a candidate to obtain a pass a total of 12 marks out of a possible 20 marks must be achieved. (60%).
 - (ii) Radio Regulations/ Operational Performance Test on Marine Radio equipment. The examination duration is typically 20 minutes per candidate. For a candidate to obtain a pass a total of 17 marks out of a possible 24 marks must be achieved. (70%).
- (c) Examination sequence for assessing each element is at the discretion of each REC.

The examination of each element may be conducted by one or more Examiners.

9.6 ISSUE OF CERTIFICATES

On receipt of examination application forms and result of any assessments from the REC, the NAC records the details on a database, files the forms and issues certificates directly to successful candidates. This procedure will normally be completed within two weeks.

9.7 EXEMPTIONS

No exemptions exist for any part of the examination.

9.8 RE-ASSESSMENT

9.8.1 RESIT REQUIREMENTS

- (a) At the discretion of the REC, candidates may only require to resit failed sections of the exam providing:
 - (i) re-assessment is conducted at the same REC.
 - (ii) re-assessment occurs within seven working days of original examination date.
 - (iii) the FULL examination fee is paid irrespective of the number of sections to be retaken.
 - (iv) in the case of a candidate obtaining a MINIMUM mark of 56/80 in the OPT examination but failing the examination due to a Shaded Box Entry, one resit may be granted covering only that equipment section in which the Shaded Box entry has

been made. The original overall OPT mark should be entered on the resit form, together with a Pass or Fail grade.

In the event of the candidate failing the resit, subsequent resit attempts should cover the complete OPT examination.

- (b) In the case of a candidate re-sitting the examination eight working days, or more, after the original examination date the candidate is required to:
 - (i) resit ALL SECTIONS of the examination
 - (ii) pay the FULL examination fee.

9.8.2 REASSESSMENT TIME LIMITATIONS

Candidates may be allowed a maximum of one resit on the day of the examination, thereafter 24 hours should elapse between further attempts at the discretion of the REC.

9.8.3 NON-REPETITION OF EXAMINATION PAPERS

Candidates who intend to resit the SOLAS, Radio Regulation or R/T Communications examination are to be given a different examination paper on each occasion. The GMDSS Chief Examiner is to be consulted in the event of all examination papers having been attempted by the candidate.

9.8.4 REPEAT EXAMINATIONS AT ANOTHER REC

A candidate who wishes to resit the examination at another REC is required to resit ALL SECTIONS of the examination and pay the FULL examination fee.

9.9 CONDUCT AND INVIGILATION OF EXAMINATIONS

9.9.1 APPOINTMENT OF INVIGILATORS

Invigilators MUST be approved by the REC

9.9.2 INSTRUCTIONS FOR INVIGILATORS

- a) An Invigilator must be continuously present during the examination.
- b) The examination room should be quiet at all times, watches and calculators must be silent in operation.
- c) Mobile Phones and pagers are not permitted in the examination room.
- d) A clock should be clearly visible to all candidates.
- e) Each candidate is required to provide his/her own writing implements.
- f) No unauthorised paper is allowed on the candidate's desk, the possession of unauthorised items will render a candidate liable to disqualification.

- g) All candidates should be seated 5 minutes before the start time of the examination.
- h) Candidates who leave the examination room before the end of the examination will NOT be permitted to re-enter the room or continue the examination. In these circumstances the question and answer sheets will be collected by the invigilator prior to the candidate leaving the room.
- i) During the Operational Performance Test if two candidates present in the room there must be one examiner for each candidate. Candidates must be advised beforehand if there is to be more than one candidate present and must have the option to be examined on their own. There must be sufficient physical separation within the examination room to ensure that a candidate cannot hear instruction to, or responses by, the other candidate.
- j) In cases of serious disorderly conduct, the invigilator may discontinue the examination for the candidate(s) concerned; expel the candidate(s) from the examination room after taking possession of the examination paper, answer sheets, and any material pertaining to the irregularity.
- k) Examiners should highlight both the DSC and Distress Message positions when checking candidates' logs.

9.9.3 EXAMINER GUIDELINES

GENERAL

The following guidelines to be followed in conjunction with "Conduct and Invigilation of Examinations".

- (a) All necessary papers required for the examination should be available at least one hour prior to the start of the examination.
- (b) Where candidates are resitting the examination, ensure different papers to those already taken, are available.
- (c) All equipment to be used in the R/T and OPT sections of the examination to be checked and verified to be in working order, at least one hour before the start of each section.
- (d) Give clear verbal instructions, on Resit Policy, prior to commencement of examination.
- (e) Advise candidates individually, rather than collectively, of result of examination.
- (f) Avoid lengthy discussion of any aspect of failure with a candidate. Information may be passed to the Course Tutor who can then brief the candidate on areas of weakness and the options available.
- (g) Take care in completing the paperwork. Ensure **ALL** marks are entered on the result's sheets.

SOLAS

- (a) No books or notes allowed in examination room.
- (b) Clean whiteboard/chalkboard. Clock clearly visible to all candidates.

- (c) Explain the conditions of the examination.
- (d) Give warnings of time remaining.
- (e) Ensure candidates name on each page of the question paper.
- (f) Marking of papers should be strictly in accordance with model answers.
- (g) SOLAS Papers must be double marked, by another examiner, if a candidate's marks are between 34 and 38.

Evidence of double marking must be shown on the script in a different coloured pen.

REGULATIONS

- (a) Explain how to complete the multi-choice grid, particularly with regard to changing an answer.
- (b) Ensure candidate's name on each page of the question paper.

R/T COMMUNICATIONS

- (a) Test communications system with all candidates prior to the start of the examination.
- (b) Ensure all clocks are synchronised.
- (c) Ensure candidates have clean log sheets.
- (d) The exercise should follow as natural course of events as possible, rather than a stereotyped script format.
- (e) Transmit a DSC Signal or play a tape of the DSC Signal prior to issuing the DSC Alert information.
- (f) A steady pace with clear diction and use of the phonetic alphabet is desirable.
- (g) The examiner is the control station and should dictate the flow of events, rather than the candidates.
- (h) Allow time at the end of candidate's subsequent responses before transmitting the Seelonce Feenee Broadcast.
- (i) If there is a low number of candidates, the examiner or other members of staff, should act as vessels. **Three vessels**, other than the vessel in distress, are the recommended minimum.
- (j) Examiners should keep a log of the exercise for QA purposes.

OPT

The following guidelines to be followed in conjunction with the "Explanatory Guidance Notes for Examiners".

- (a) Ensure all operating instructions are removed from the vicinity of the equipment prior to commencement of the examination.

- (b) Take time to explain the marking system/time allowance to the candidate prior to commencing the tests.
- (c) Keep a close watch on the time taken on each item of equipment by the candidate and, if struggling badly, move them on to the next equipment.
- (d) Avoid the candidate seeing the results of the tests being entered on the sheets.
- (l) Average ability marks should be awarded where candidates struggle to achieve the desired result of a task.
- (f) Ensure asterisked tasks cover more than one manufacturer's equipment.
- (g) Where live signals are required for Main Transceiver Tests, 5505.2 kHz is an appropriate station in the UK area giving 24 hour weather information from Shannon by voice. Alternatively, HF Telex Stations can be sourced prior to the commencement of the examination.
- (h) Candidates who are struggling to retrieve information from the Admiralty List of Signals, or the ITU Documents, should be moved on to the next task, particularly where no shaded box is involved.

9.9.4 IRREGULAR BEHAVIOUR

- (a) A report in writing, detailing the incident is required to be communicated to the NAC Manager who will inform the Chief Examiner.

The candidate is to be advised of his/her right of appeal as detailed in Section 9.10.

- (b) Where a candidate is found to be in possession of unauthorised material or is suspected of copying, his/her answer sheets must be endorsed by the invigilator as having been used prior to the incident.

The candidate should then be advised that the procedures detailed in Rule 9.10 are to be applied.

Where an irregularity is detected after an examination has been concluded, full details of the circumstances and all relevant materials must be immediately reported to the NAC Manager who will inform the Chief Examiner.

9.10 APPEALS

9.10.1 STAGE 1

In the event of a candidate being dissatisfied with the services received from an REC, the candidate should, in the first instance, appeal in writing to the REC Co-ordinator.

9.10.2 STAGE 2

If a satisfactory result is not achieved from the action of 9.10.1 the candidate may write to the NAC Manager. The matter will be investigated by the Chief Examiner whose decision is final and who will report directly to the Executive Committee.

10 LRC LIST OF EQUIPMENT AND SUPPORT MATERIAL

10.1 EQUIPMENT REQUIREMENTS FOR REC AND OUTREACH LOCATIONS

A centre is required to have installed each of the following items of **MARINE EQUIPMENT** in order to be considered for status as a Regional Examination Centre or Outreach Centre.

- (a) Terrestrial transceiver capable of MF/HF operation. Facility to receive live signals.
- (b) VHF transceiver with facilities to receive live signals.
- (c) Navtex receiver.
- (d) MF/HF/VHF Digital Selective Calling (DSC) encoder/decoder, with facilities to receive live signals.
- (e) Inmarsat-C terminal or approved simulator, only for centres offering Satellite Module.
- (f) Facilities for measuring a DC supply.
- (g) Two 406 MHz dummy EPIRBs.
- (h) Two 9 GHz dummy SARTs.
- (i) Portable Survival Craft Handheld VHF or dummy.
- (j) Equipment for R/T communications exercise with PTT facilities and live or taped DSC alarm.
- (k) Facilities for testing a fuse.

Alternatively, the following AMERC approved simulators may be used:

- (a) Poseidon Pharos GMDSS Simulator. (Only Versions 6.0.3 or 7.0.1 acceptable).
- (b) Transas 3000 and 4000 series GMDSS simulator

Where full simulation is used, the following MINIMUM requirements must be met:

- One instructor station.
- One trainee station per student consistent with course approval number i.e. course approval for 8 students requires 8 trainee stations.
- One set of hardware control panels per maximum of 8 students.
- Two dummy 9 GHz SARTs.
- Two dummy 406 MHz EPIRBs.
- One **marine** MF/HF receiver with facilities to receive live signals.

Inmarsat only simulators:

The following AMERC approved Inmarsat system simulators may be used:

- (a) Sailcom Inmarsat C Simulator (Version 1.50 or 1.70)
- (b) Transas TGS4100 Tutor – Inmarsat C

Where Inmarsat only simulation is used, the following MINIMUM requirements must be met:

- One simulator station for each simulated Inmarsat system.

10.2 DOCUMENTATION AND SUPPORT MATERIAL

Sufficient sets of current format Admiralty List of Radio Signals to meet examination requirements as follows:

- Volume 1 *part 1 or 2*
- Volume 5
- Volume 6 *part 1 or 2*

The LRC syllabus requires candidates to have an awareness of international documentation including publications of the International Telecommunications Union (ITU). Course providers are therefore encouraged to provide sufficient sets of current format ITU Documents from *List A* or *List B* as follows:

LIST A

- List of Coast Stations
- List of Ship Stations
- List of Call Signs and Numerical Identities

LIST B

- List of Ship Stations and Maritime Mobile Service Identity Assignments
- List of Coast Stations and Special Service Stations

11 LRC EXAMINATION SYLLABUS

The information contained in Sections 11.1, 11.2 and 11.3 has been extracted from Annex 1 and 2 of the text of the recommendation proposed by the Working Group "Radio Regulatory (RR) for the Harmonised Examination Procedures for the General Operator's Certificate (GOC) - Recommendation T/R 31-05 E (Bonn 1994).

11.1 EXAMINATION SYLLABUS FOR THE CEPT LRC

The Examination Syllabus for the CEPT Long Range Radiotelephone Operator's Certificate of Competence (LRC) for vessels not subject to compulsory fit under the SOLAS Convention

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

- (a) General knowledge of radiocommunications in the maritime mobile service.
The general principles and basic features of the maritime mobile service.
- (b) Detailed practical knowledge and ability to use radio equipment.
 - (i) The VHF radio installation. Use VHF equipment in practice.
 - (ii) The MF/HF radio installation. Use MF/HF equipment in practice.
 - (iii) Purpose and use of Digital Selective Calling (DSC) facilities.
- (c) Operational procedures of the GMDSS and detailed practical operation of GMDSS subsystems and equipment appropriate to non-SOLAS vessels.
 - (i) Basic introduction to Global Maritime Distress and Safety System (GMDSS) procedures.
 - (ii) Distress, urgency and safety communication procedures in the GMDSS.
 - (iii) Distress, urgency and safety communication procedures in the old distress and safety system.
 - (iv) Protection of distress frequencies.
 - (v) Maritime Safety Information (MSI) systems in the GMDSS.
 - (vi) Alerting and locating signals in the GMDSS.
- (d) Miscellaneous skills and operational procedures for radiotelephone communications.
 - (i) Ability to exchange communications relevant to the safety of life at sea.
 - (ii) Regulations, obligatory procedures and practices.
 - (iii) Practical and theoretical knowledge of radiotelephone procedures.

11.2 EXAMINATION SYLLABUS GUIDELINES FOR THE CEPT LONG RANGE RADIOTELEPHONE OPERATOR'S CERTIFICATE OF COMPETENCE (LRC) FOR VESSELS NOT SUBJECT TO COMPULSORY FIT UNDER THE SOLAS CONVENTION.

11.2.1 GENERAL KNOWLEDGE OF RADIOCOMMUNICATIONS AND BASIC FEATURES OF THE MARITIME MOBILE SERVICE.

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

- (a) Types of communication in the maritime mobile service.
 - (i) Distress, urgency and safety communications.
 - (ii) Public correspondence.
 - (iii) Port operations service.
 - (iv) Ship movement service.
 - (v) Intership communication.
 - (vi) On board communications.
- (b) Types of station in the maritime mobile service.
 - (i) Ship stations.
 - (ii) Coast stations.
 - (iii) Pilot stations.
 - (iv) Port stations etc.
 - (v) Aircraft stations.
 - (vi) Rescue Co-ordination Centre (RCC).
- (c) Elementary knowledge of radio frequencies and frequency bands.
 - (i) Frequency and wavelength.
 - (ii) The unit of frequency: Hz, kHz, MHz, GHz.
 - (iii) The subdivision of the most significant part of the radio spectrum: MF, HF, VHF, UHF, SHF.
 - (iv) Propagation on MF, HF frequency bands, VHF and UHF.
- (d) Frequencies allocated to the maritime mobile service.
 - (i) Usage of MF, HF, VHF, UHF and SHF frequencies in the maritime mobile service.
 - (ii) Modes of communications (e.g. radiotelephony, DSC NBDP, Facsimile) and classes of emission.
 - (iii) Bandwidth of different emissions, carrier frequency and assigned frequency.
 - (iv) Official designations of emission e.g. F1B, J3E, A3E, F4 etc.). Unofficial designations of emissions (e.g. TLX, SSB, AM, FM etc.).
 - (v) The concept of radio channel: simplex, semi-duplex and duplex; paired and unpaired channels.
 - (vi) Frequency plans and channelling systems in the VHF, MF and HF maritime mobile bands, including allocations for the GMDSS.
 - (vii) Distress and safety frequencies.
 - (viii) Small craft safety. Intership communications.

- (xi) Port Operations. Ship movement.
- (x) Calling frequencies.
- (e) Maintaining the functionality of ship station equipment.
 - (i) Sources of energy of ship stations.
 - (ii) Types of batteries and their characteristics.
 - (iii) Charging. Maintenance of batteries.

11.2.2 DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE RADIO EQUIPMENT.

- (a) The VHF radio installation.
 - Channel selection and controls. Dual watch facilities.
 - Basic controls and usage, e.g. connecting the power. Press to transmit switch. High/low output power switch. Volume control. Squelch control. Dimmer.
 - Portable two-way VHF radiotelephone apparatus.
 - Maritime VHF antennae and their maintenance.
- (b) The MF/HF radio installation.
 - Frequencies/channels and selection criteria.
 - Typical controls and usage, e.g. connecting the power. Selecting RX frequency. Selecting transmitter frequency. Selecting ITU channel number. Tuning the transmitter. Selecting the class of emission. Using the volume control and squelch. Using the clarifier or receiver fine tune. Controlling the RF gain. Using the 2182 kHz instant selector. Testing the alarm generator. Using the alarm generator.
- (c) Purpose and use of Digital Selective Calling (DSC) facilities.
 - The general principles and basic features of DSC.
 - DSC messages.
 - DSC single frequency call attempt and multi-frequency call attempt.
 - Call acknowledgement. Call relay.
 - Types of call. Distress call. All ships call. Call to individual station. Geographical area call. Group call. Call to individual station using automatic/semi-automatic service.
 - The Maritime Mobile Service Identity (MMSI) Number System. The MMSI system. The nationality identification: Maritime Identification Digits (MID). Ship station numbers. Group calling numbers. Coast station numbers.
 - Call categorisation and priority. Distress. Urgency. Safety. Ship business. Routine.
 - Call telecommand and traffic information. Distress alerts. Designated distress alerts. Undesignated distress alerts. Distress co-ordinates. Time and validity of distress co-ordinates. Other calls and messages. Working frequency and channel information.
 - DSC facilities and usage. The channel-70 instant alert selector The 2187.5 kHz instant alert selector. Manual settings J2B and F1B modes, e.g.. 2187.5 kHz, 2185.8 kHz and 8414.5 kHz/8412.8 kHz.. DSC data entry and display. Updating vessel position. Entering pre-set message, entering traffic information, reviewing received messages. DSC watch keeping functions and controls.
 - Testing of DSC. Internal self-testing procedures. Live transmission testing.

11.2.3 OPERATIONAL PROCEDURES OF THE GMDSS AND DETAILED PRACTICAL OPERATION OF THE GMDSS SUBSYSTEMS AND EQUIPMENT APPROPRIATE TO NON-SOLAS VESSELS.

- (a) Search and Rescue (SAR) Procedures in the GMDSS.
 - (i) Sea Areas, the GMDSS master plan, and access to GMDSS facilities.
 - (ii) The role of RCCs.
 - (iii) Organisation of Search and Rescue.
- (b) Distress, urgency and safety communication procedures in the GMDSS.
 - (i) Distress communications via DSC equipment. DSC distress alert- the definition of DSC 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, 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. On-scene communications. SAR operations.
 - (ii) Urgency and Safety communications via DSC equipment. The meaning of urgency and safety communications. Procedures for DSC urgency and safety calls. Urgency communications. Safety communications.
- (c) Distress, urgency and safety communication procedures by radiotelephony in the old distress and safety system.
 - (i) Distress communications. Radiotelephone alarm signal- format and purpose. Distress signal- correct use and meaning of the signal MAYDAY. Distress call. Distress message. Acknowledgement of a distress message - obligation to acknowledge a distress message, correct form of acknowledgement, action to be taken following acknowledgement. The control of distress traffic - correct use and meanings of the signals: SEELONCE MAYDAY and SEELONCE FENEE.

Transmission of a distress message by a station not itself in distress - correct use and meaning of the signal MAYDAY RELAY.
 - (ii) Urgency communications. Urgency signal - correct use and meaning of the signal PAN-PAN. Urgency message. Obtaining urgent medical advice through a Coast Radio Station.
 - (iii) Safety communications. Safety signal - correct use and meaning of the signal SECURITE. Safety message. Special procedures for communications with appropriate national organisations on matters affecting safety.
- (d) Protection of distress frequencies.
 - (i) Avoiding harmful interference.
 - (ii) Transmissions during distress traffic.
 - (iii) Prevention of unauthorised transmissions.
 - (iv) Test protocols and procedures. Testing DSC equipment.
 - (v) Radiotelephone test procedures.
 - (vi) Guard bands.
 - (vii) Procedures to follow when a false distress alert is transmitted.
- (e) Maritime Safety Information (MSI) systems in the GMDSS.

- (i) Safety information transmitted by VHF/MF/HF radiotelephony.
 - (ii) The NAVTEX system. Purpose of NAVTEX. NAVTEX frequencies. Antenna for the NAVTEX receiver. Reception range. Message format (transmitter ID, message type, message number). The NAVTEX receiver - selection of transmitters, selection of message type, messages which cannot be rejected, use of subsidiary controls, ensuring the integrity of message output.
- (f) Alerting and Locating Signals in the GMDSS.
- (i) Purpose and definition.
 - (ii) Emergency Position Indicating Radio Beacons (EPIRBs). Registration and Coding. Information contents of a distress alert. Operation including automatic (float-free) and manual activation and avoidance of false alerts - COSPAS/SARSAT 406 MHz EPIRB, Inmarsat-E 1.6 GHz EPIRB, VHF-DSC EPIRB, 121.5 MHz homing function, mounting considerations. Routine maintenance - testing, checking battery expire date, checking the float-free mechanism.
 - (iii) Search and Rescue Radar Transponder (SART). The main technical characteristics. Operation - operating height, effect of radar reflector. Range of a SART transmitter. Routine maintenance of a SART - checking battery expire date.

11.2.4 MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR RADIOTELEPHONE COMMUNICATIONS.

- (a) Ability to exchange communications relevant to the safety of life at sea.
 - (i) Awareness of the existence and use of the IMO Standard Marine Navigational Vocabulary and knowledge of the basic signals: ALL AFTER; ALL BEFORE; CORRECT; CORRECTION; IN FIGURES; IN LETTERS; I SAY AGAIN; I SPELL; OUT; OVER; RADIO CHECK; READ BACK; RECEIVED; SAY AGAIN; STATION CALLING; TEXT; TRAFFIC; THIS IS; WAIT; WORD AFTER; WORD BEFORE; WRONG.
 - (ii) Recognised standard abbreviations and commonly used service codes.
 - (iii) Use of international phonetic alphabet.
- (b) Regulations, obligatory procedures and practices.
 - (i) Awareness of international documentation. Publications of the International Telecommunication Union (ITU) - List of Ship Stations, Annex to the List of Coast Stations which contains particulars of coast stations participating in the GMDSS, The Alphabetical List of Call Signs, The Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services, List of Coast stations with which communications are likely to be established (watch- keeping hours, frequencies and charges), List of Coast Stations providing navigational and meteorological warnings and other urgent information for ships.
 - (ii) Availability and knowledge of national documentation.
 - (iii) Knowledge of the regulations and agreements governing the maritime mobile service. Requirements for Ship Radio Licence. Regulations concerning control of the operation of radio equipment by the holder of an appropriate certificate of competence. Regulations concerning the radiotelephone log. Preservation of the secrecy of correspondence.
- (c) Practical and theoretical knowledge of radiotelephone procedures.

- (i) Practical traffic routines using radiotelephony. Preliminary operations. Correct use of call signs. Procedures for establishing radio communications - intership calling, public correspondence, small craft safety, Port operations and ship movement channels, calling a station providing a pilot service. Control of communications and the role of coast stations - selection of frequencies to be used for traffic, reply procedures, duration of calls, traffic lists transmitted by coast stations, traffic reports transmitted by ship stations. Procedures for unanswered calls and garbled calls. Difficulties in reception and inability to accept traffic. Types of call and types of message which are prohibited.
- (ii) Practical traffic routines using DSC. Calling a coast station or ship station by DSC. Acknowledging receipt of a call using DSC. Subsequent handling of traffic.
- (iii) Public correspondence procedures. Establishing a radiotelephone link call via a coast station - ordering a manually switched link call, ending the call, calls to ships from coast stations, special facilities calls. Traffic charges - the international charging and accounting system, Accounting Authority Identification Code (AAIC).

11.3 EXAMINATION MODULE FOR THE MARITIME MOBILE SATELLITE SERVICE

(for Vessels not subject to a compulsory fit under the SOLAS Convention.)

The examination consists of theoretical and practical tests and should include at least the following.

11.3.1 THE GENERAL PRINCIPLES AND BASIC FEATURES OF THE MARITIME MOBILE-SATELLITE SERVICE RELEVANT TO NON-SOLAS VESSELS.

- (a) Maritime satellite communications via Inmarsat system.
 - (i) Inmarsat space segment.
 - (ii) Ocean areas and satellite acquisition.
 - (iii) Communication services.
 - Telephone services
 - Telex services
 - Facsimile and Data services
- (b) Types of station in the maritime mobile satellite service
 - (i) Coast Earth Stations (CES), Land Earth Stations (LES).
 - (ii) Network Co-ordination Station (NCS)
 - (iii) Ship Earth Station (SES), Mobile Earth Stations (MES).
Inmarsat B, C and M systems.

11.3.2 OPERATIONAL PROCEDURES AND DETAILED PRACTICAL OPERATION OF SHIP EARTH STATIONS IN THE GMDSS APPROPRIATE TO NON-SOLAS VESSELS.

- (a) Inmarsat - C Mobile (Ship) Earth Station.
 - (i) Components of an Inmarsat - C Terminal.
 - (ii) Entering/updating position.
 - (iii) Usage of an Inmarsat - C Mobile (Ship) Earth Station.
 - (iv) Sending and receiving text messages.
 - (v) Distress and Safety services.
 - Sending a distress alert.
 - Sending a distress priority message.
 - 2 - digit code safety services.
 - (vi) Avoidance of initiating a false distress alert.
Procedures to follow when a false distress is transmitted.
- (b) Inmarsat Enhanced Group Call (EGC) system.
 - (i) Purpose of the EGC system.
 - (ii) Programming an MES (SES) for EGC reception.
 - Updating position.
 - Selecting NAV/MET areas.

12 APPENDICES

12.1 MCA 1998 GUIDANCE ON MINIMUM CERTIFICATION REQUIREMENTS ACCORDING TO VESSEL TYPE

MINIMUM CERTIFICATION REQUIREMENTS ACCORDING TO VESSEL TYPE

Type of Vessel	Operator Certificate Requirements	
	Sea Area	
	A2 +	A1
Passenger Ship (Classes I, II, III (A) & III)	GOC	ROC
Passenger Ship (others y)	LRC	SRC
Cargo Ship over 300 gt	GOC	ROC
Cargo Ship under 300 gt	LRC	SRC
Fishing Vessel over 45m	GOC	ROC
Fishing Vessel over 24m new	GOC	ROC
Fishing Vessel other	LRC	SRC
"Code" Vessel over 24m*	GOC	ROC
"Code" Vessel**	LRC	SRC
Voluntary Fit Vessel	LRC	SRC
– wishing to use GMDSS***		

y The requirements for these classes of vessels are subject to revision.

* The Code of Practice for Safety of Large Commercial Sailing and Motor Vessels.

** The Code of Practice for the Safety of Small Workboats and Pilot Boats.

AND

The Safety of Small Commercial Sailing/Motor Vessels – A Code of Practice.

*** Includes Leisure Vessels, and Vessels Tugs and Dredgers etc., which do not go to sea.

NB An operator should always be qualified to operate the equipment fitted to vessel.

2nd December 1998

12.2 AMERC OFFICERS

<p>Chairman of AMERC Mr Christopher Harrison Lowestoft College St. Peter's Street Lowestoft Suffolk NR32 2NB Telephone : +44 (0)1502 525 061 Fax : +44 (0)1502 500 031 Email : c.harrison@lowestoft.ac.uk</p>	<p>Secretary of AMERC Mr Terry Slack 16 Woodside Avenue Alverstone Garden Village Isle of Wight PO36 0JD Telephone : +44 (0)7771 361 141 Email : secretary@amerc.ac.uk</p>
<p>Chief Examiner (GMDSS) Mr Eric Lamb 3, Broomieknowe Park Bonnyrigg Midlothian EH19 2JA Telephone : +44 (0)131 6540023 Fax : +44 (0)131 6540023 Email: : eric_lic@hotmail.com</p>	<p>Deputy Chief Examiner (GMDSS) Mr Keith Watkins Room L116 School of Engineering, Officer of the Watch South Tyneside College St George's Avenue South Shields NE34 6ET Telephone : +44 (0)191 427 5156 Email : keith.watkins@stc.ac.uk</p>
<p>Assistant Chief Examiner (Overseas) Mr Francis Rodrigues Sir Derek Bibby Maritime Training Centre At St. Xavier's Technical Institute, 4th Floor Mahim Causeway Mahim (West) Mumbai 400 016 India Telephone : +91 22 2446 3565 : +91 22 2563 9581 : +91 98 2000 6916 Fax : +91 22 2445 4482 Email : pauluke@gmail.com</p>	

12.3 AMERC NATIONAL ADMINISTRATION CENTRE

<p>AMERC Limited NAC c/o Wray Castle Ltd Bridge Mills Stramongate KENDAL LA9 4UB UK</p> <p>Contact : : Joan Hobbs Telephone : +44 (0)1539 742 745 Fax : +44 (0)1539 742 746 Email : amerc_nac@wraycastle.com</p>	
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12.4 AMERC REGIONAL EXAMINATION CENTRES (RECS) – U.K.

<p>Aberdeen College Aberdeen Skills and Enterprise Training Aberdeen College Gallowgate Centre Aberdeen AB25 1BN REC Co-ordinator : Mr Michael Moir Telephone : +44 (0)1224 639 611 : +44 (0)1224 612 205 Mobile : +44 (0)7793 055 358 Fax : +44 (0)1224 612 201 Email : radiomichael@gmail.com</p>	<p>Banff & Buchan College Henderson Road Fraserburgh Aberdeenshire AB43 9GA REC Co-ordinator : Mr. Jim Nicol Telephone : +44 (0)1346 586 134 Fax : Email : jnicol@banff-buchan.ac.uk</p>
<p>Blackpool & The Fylde College Fleetwood Nautical Campus Broadwater Fleetwood Lancs. FY7 8JZ REC Co-ordinator : Mr Tony Browne Telephone : +44 (0)1253 352 352 Fax : +44 (0)1253 773 014 Email : tbr@blackpool.ac.uk</p>	<p>City of Glasgow College Riverside Campus 21, Thistle Street Glasgow G5 9XB REC Co-ordinator : Mr Ian Cheshire Telephone : +44 (0)141 565 2711 Fax : +44 (0)141 565 2618 Email: ian.cheshire@cityofglasgowcollege.ac.uk</p>
<p>Lairdside Maritime Centre Liverpool John Moores University 3 Vanguard Way Campbeltown Road Birkenhead Wirral, CH41 9HX REC Co-ordinator: Mr. Philip B. Davies Telephone : +44 (0)151 647 0494 Fax : +44 (0)151 647 0498 Email : lairdside@ljmu.ac.uk</p>	<p>Lowestoft College St. Peters Street Lowestoft Suffolk, NR32 2NB REC Co-ordinator : Mr Chris Harrison Telephone : +44 (0)1502 583 521 Fax : +44 (0)1502 500 031 Email : c.harrison@lowestoft.ac.uk</p>
<p>Northwest Kent College Gravesend Campus Dering Way Gravesend Kent, DA12 2JJ REC Co-ordinator: Mr Stephen Watkins Telephone : +44 (0)1322 629 684 Fax : +44 (0)1322 629 667 Email : stephenwatkins@nwkcollege.ac.uk</p>	<p>Royal National Lifeboat Institution West Quay Poole Dorset, BH15 1HZ REC Co-ordinator : Mr Steve Howard Telephone : +44 (0)1202 663 388 Fax : +44 (0)1202 663 366 Email : showard@rnli.org.uk</p>

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<p>Shetland School of Nautical Studies Port Arthur Scalloway Shetland ZE1 0UN</p> <p>REC Co-ordinator : Jan Rigden Telephone : +44 (0)1595 772 000 Fax : +44 (0)1595 772 001 Email : jan.rigden@nafc.uhi.ac.uk</p>	<p>Southampton Solent University Faculty of Technology East Park Terrace Southampton, SO14 0RD</p> <p>REC Co-ordinator : Mr Kevin Walsh Telephone : +44 (0)23 8031 9335 Fax : +44 (0)23 8031 9944 Email : kevin.walsh@solent.ac.uk</p>
<p>South Tyneside College Faculty of Electrical & Electronic Eng St George's Avenue South Shields Tyne & Wear, NE34 6ET</p> <p>REC Co-ordinator: Mr. Alan Burns Telephone : +44 (0)191 427 3557 Fax : +44 (0)191 427 3907 Email : alan.burns@stc.ac.uk</p>	

12.5 OVERSEAS AMERC EXAMINATION CENTRES

<p>FRANCE The Blue Water School La Galerie du Port 8 Blvd d'Aguillon 06600 Antibes France</p> <p>REC Co-ordinator : Mr John Wyborn Telephone : +33 493 343 413 Fax : +33 493 343 593 Email : training@bluewateryachting.com</p>	<p>AMERICA Maritime Professional Training 1915 South Andrews Avenue Ft. Lauderdale Florida FL 33316 United States of America</p> <p>REC Co-ordinator: Mr Jack Krantz Telephone : +1 954 525 1014 Fax : +1 954 764 0431 Email : krantzj@bellsouth.net</p>
<p>AMERICA International Yachtmaster Training 910 SE 17th Street Fort Lauderdale Florida FL 33316 United States of America</p> <p>REC Co-ordinator : James Cartlidge Telephone : +1 954 779 7764 Email : jimc@yachtmaster.com</p>	<p>ITALY Star Center Italia srl Via F Russo 16 81030 Castel Volturno (CE) Italy</p> <p>REC Co-ordinator : Mrs Anna Trapanese Telephone : +39 081 509 3887 Fax : +39 081 509 6512 Email : starcenter@libero.it</p>
<p>ITALY CERNET MRCC Viale Cristoforo Colombo n.33 Torre Del Greco 80059 Naples Italy</p> <p>REC Co-ordinator : Mr Gianni Romano Telephone : +39 081 881 6657 Fax : +39 081 881 6657 Email : gianniromano@libero.it</p>	<p>ITALY THESI Via M Colonna, 93 70042 Mola di Bari (BA) Italy</p> <p>REC Co-ordinator: Capt. Giacomo Fiore Telephone : +39 80 474 6515 Fax : +39 80 474 6515 Email : g.a.fiore@theseconsulting.com</p>
<p>ITALY Tema Safety & Training s.r.l. Via del Trattarello Tarantino, 6 74100 Taranto Italy</p> <p>REC Co-ordinator: Rocco Petrera Telephone : +39 099 472 5898 Fax : +39 099 473 5250 Email : roccopetrera@libero.it</p>	<p>INDIA T.S. Rahaman S.M.Y. Seamen Welfare Foundation Jahaz Mahal Annexe 170k Samander Point Estate Mumbai 400 018 India</p> <p>REC Co-ordinator : Theodore D'Sa Telephone : +91 22 2721 2834, Telephone : +91 22 2772 0438 Mobile : +91 99 2041 6949 Fax : +91 22 2495 0270 Email : theoadel@hotmail.com</p>

<p>INDIA Academy of Maritime Education and Training 135 East Coast Road Kanathur 603 112 India</p> <p>REC Co-ordinator : Mr D. Santhanam Telephone : +91 4114 472803 Fax : +91 4114 472804 Email : dpsanathanam@yahoo.co.in</p>	<p>INDIA Sir Derek Bibby Maritime Training Centre At St. Xavier's Technical Institute, 4th Floor Mahim Causeway Mahim (West) Mumbai 400 016 India</p> <p>REC Co-ordinator : Francis P Rodrigues Telephone : +91 22 2446 3565 Telephone : +91 22 2563 9581 Alternate Tel. : +91 98 2000 6916 Fax : +91 22 2445 4482 Email : pauluke@gmail.com</p>
<p>INDIA Anglo Eastern Maritime Training Centre Plot 50, Karmayog Building Near Sona Udyog Parsi Panchayat Road Andheri (E) Mumbai 400 069 India</p> <p>REC Co-ordinator : Mr Jagdish Tanna Telephone : +91 222 683 7007 Fax : +91 222 683 7008 Email : jagdishtanna@angloeasterngroup.com</p>	<p>SRI LANKA CINEC Maritime Campus Colombo International Nautical & Engineering College Millennium Drive IT Park Malambe Sri Lanka</p> <p>REC Co-ordinator : Mr S Rupasinghe Managing Director: Capt Asitha Wijesekera Telephone : +94 1 241 3500 Fax : +94 1 241 3505 Email : rupasinghe@cinec.edu Email : rup@irishnation.com</p>
<p>AUSTRIA Maritime Radio School Koblmiller Vorstadtl 3 2483 Ebreichsdorf AUSTRIA</p> <p>REC Co-ordinator : Mr. Herbert Koblmiller Telephone & Fax : +43 225 476 215 Mobile : +43 664 334 8968 Email : office@gmdss.at Web : www.gmdss.at</p>	

12.6 AMERC EXAMINATION PROCEDURES FOR CANDIDATES WITH DYSLEXIA

The MCA has a policy, to allow up to an extra 25% examination time for those having been diagnosed by an educational psychologist as being dyslexic. Given the safety critical nature of the job of the holder of a Certificate of Competence it is not considered appropriate that candidates should be permitted the use of readers, scribes or computers. However, other aides such as coloured film etc are permitted.

This policy has recently been revisited and in consultation with the Dyslexia Association it was agreed to extend the acceptable assessors to include holders of Postgraduate Certificate in Adult Dyslexia Diagnosis and Support, who hold a Practising Certificate from The Professional Association of Teachers of Students with Specific Learning Difficulties (PATOSS).

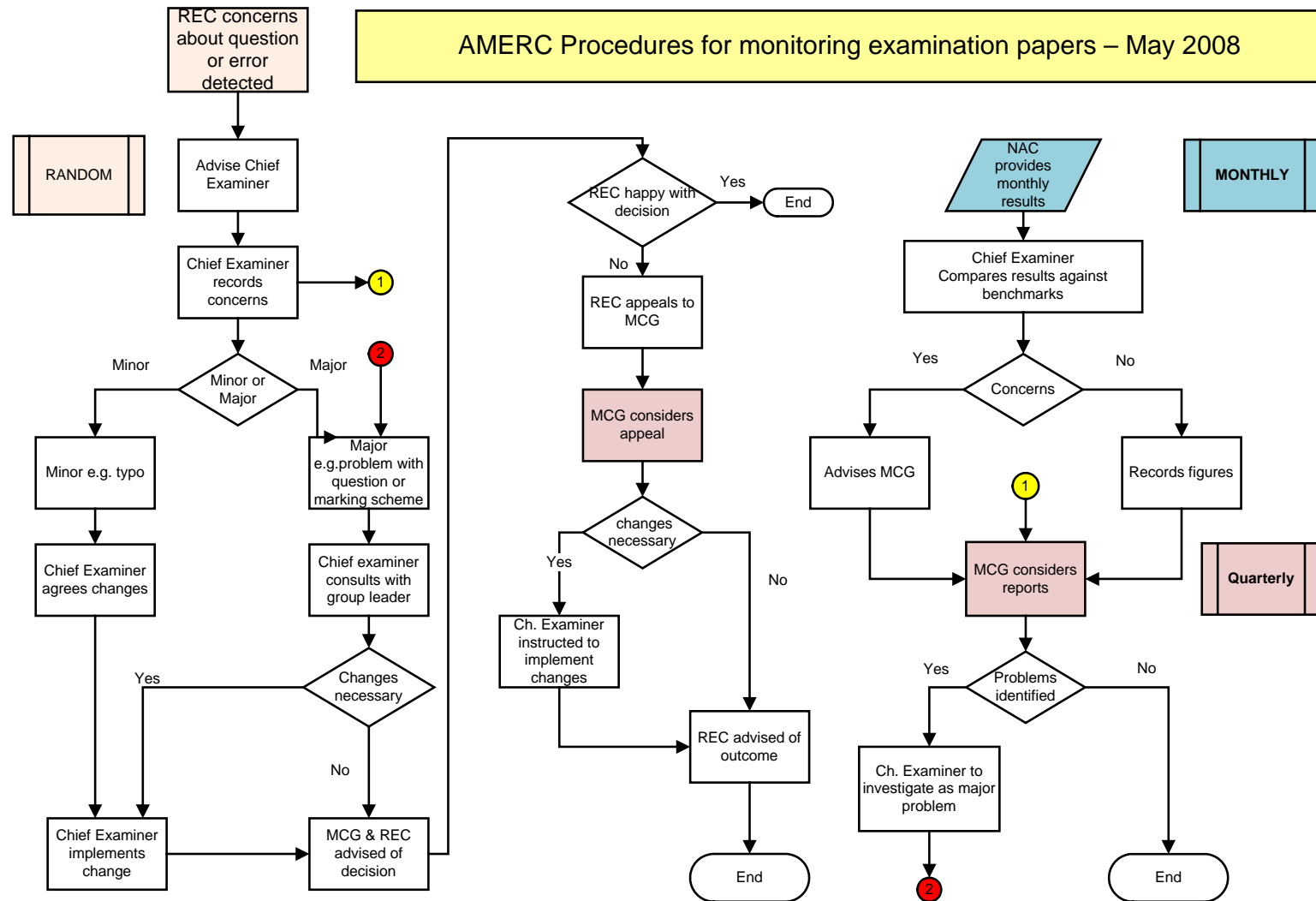
Assessment must have been carried out as an Adult (post 16), include cognitive assessment and clearly identify dyslexia as a learning difficulty.

A re-assessment (cognitive assessment not required) should be carried out at 10 yearly intervals after the initial adult assessment to maintain the agreed additional time.

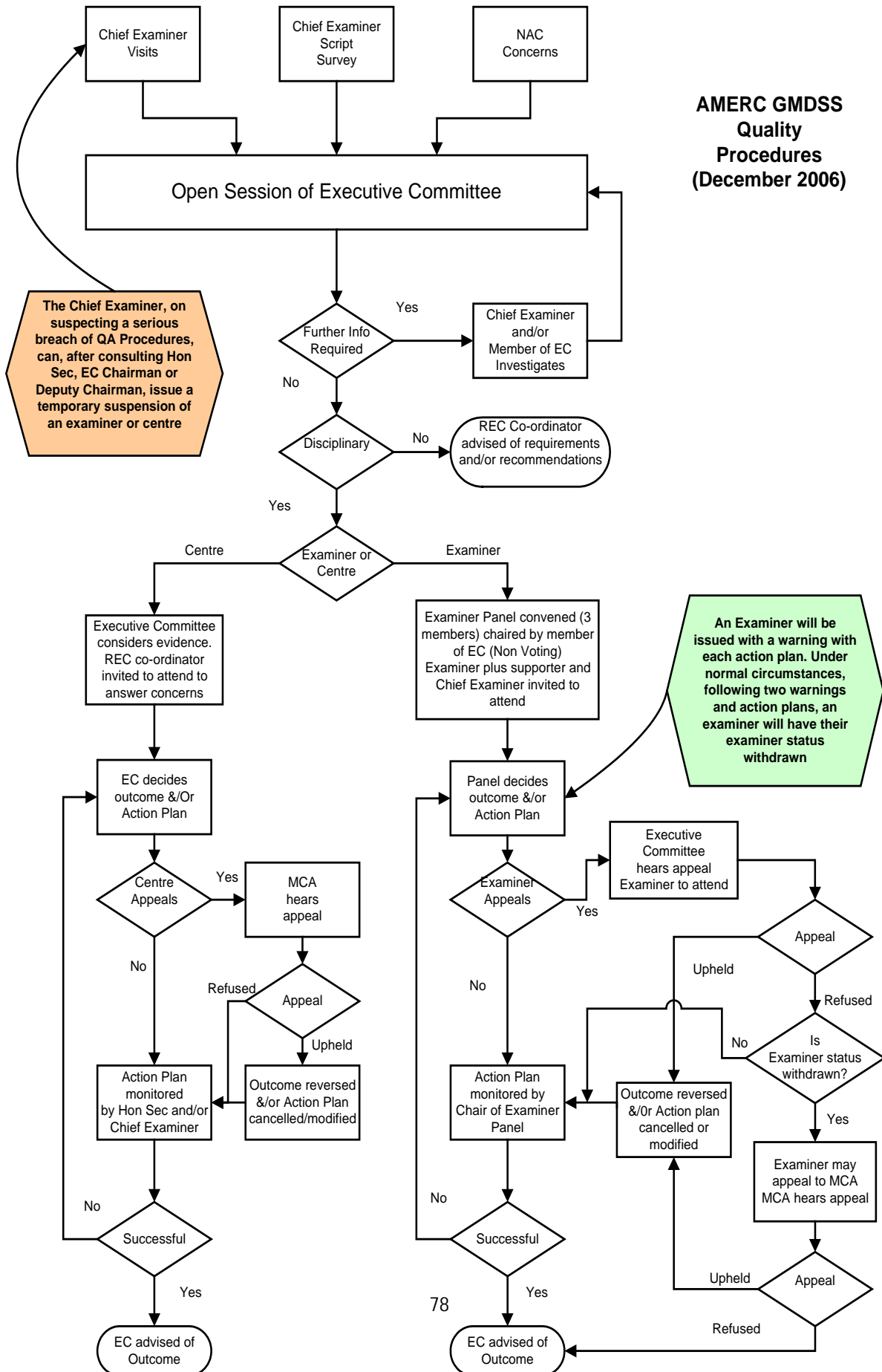
The Association has adopted a policy for dealing with GMDSS Examinations candidates who suffer from dyslexia. The Maritime Board, in consultation with the MCA, have agreed the following procedure for GMDSS (GOC, ROC and LRC) candidates who suffer from Dyslexia:

- The candidate should provide documentary evidence to support their dyslexia claim.
- The Chief Examiner should be advised, prior to the examination, of the candidate's disability. In the event that the Chief Examiner cannot be contacted, the NAC should be advised.
- Written examinations (General Knowledge, SOLAS and Regulations as appropriate) should be carried out following standard procedures but allowing 25% extra time. When marking the candidate's script, the examiner should make allowances for mis-spelling and jumbled wording, but must adhere to the marking scheme particularly in the spelling of signals e.g. Mayday, Pan Pan etc. In the LRC and ROC, the SOLAS can be conducted as an Oral examination.
- The R/T exercise should be carried out following standard procedures. At the end of the exercise, the candidate may be allowed additional time to read through and check their logbook. Any alterations made at this time should, as is customary, be accompanied by the candidate's signature. The candidate's logbook should be marked following the standard marking scheme. With the exception of words which were spelled phonetically, e.g. callsigns, ships' names, the examiner should make allowances for mis-spelling and jumbled wording.
- Where the candidate's marks fall within the re-mark boundaries, a re-mark should be carried out.
- If after the examination, any concerns remain over the result for the candidate, the candidate's scripts should be referred to the Chief Examiner.

12.7 EXAMINATION PAPER PROCEDURES



12.8 AMERC GMDSS QUALITY ASSURANCE PROCEDURES (DECEMBER 2006)



12.9 AUDIT PROCEDURES

This procedure should be read in conjunction with the MNTB Guidelines for GMDSS Courses.

12.9.1 INTRODUCTION

AMERC is responsible to the MCA for:

- Recommending centres for GMDSS Course Approval
- Providing a GMDSS Examination service

Courses: Each centre is free to establish its own course format, but should meet MNTB guidelines as published in "Training for the issue of a Certificate of Competency for the Global Maritime Distress and Safety System GOC and ROC" (December 2008 updated July 2009)

Examination: The format of the GMDSS Examinations (GOC, ROC and LRC) are agreed and reviewed annually by the AMERC Examiners' Panel. Centres and Examiners should carry out the examinations in accordance with the AMERC Examination Administration Handbook, Guidelines for Examiners and updates published in the AMERC News.

The AMERC Executive Committee (EC) advises the MCA through meetings of the Maritime Consultation Group (MCG) To assist this meeting to make informed decisions, reports are received of audit visits to centres. These audit reports are in two parts Course Approval and Examination Inspection.

The EC is responsible for:

- Establishing the aims and objectives of the audit programme
- Appointing the audit team
- Ensuring the audit programme is implemented
- Monitor review and improve the audit programme on an annual basis or whenever an operational review identifies the need.

12.9.2 AIMS OF AUDITS

Course Approval

- Ensure candidates receive adequate training prior to examination
- Ensure the training meets MNTB guidelines
- Identify areas of good practice for dissemination to other centres
- Advise centres on possible improvements
- Produce a report which will allow EC to provide a recommendation to the MCA on whether the centre should be granted initial and continuing course approval.

Examination Audit, Review and Verification (Inspection)

- Ensure candidates are assessed to the same standard irrespective of centre or examiner
- Provide the audit team with information to inform Examiners' Panel of the suitability of present examination format and its implementation
- Provide a report which will allow EC and MCG make an informed decision on whether a centre is examining to the correct standards. If not, provide information to enable the EC and MCG to provide

the centre with an action plan (or in cases of serious breaches instigate disciplinary procedures as detailed in Examination Handbook).

12.9.3 AUDIT PROCEDURES

Audit Team and Responsibilities

- The audit team consists of the Chief Examiner, Deputy Chief Examiner and Assistant Chief Examiner (All posts are appointed by the EC) or persons seconded on behalf of the EC.
- The Chief Examiner has responsibility for producing audit schedule, allocating auditors and ensuring reports are submitted to EC and MCG meeting
- The Chief Examiner, Deputy Chief Examiner and Assistant Chief Examiner are normally responsible for carrying out the audits in line with EC guidelines and producing an audit report which is presented to the EC

Audit Schedule

- Centres will normally be audited on a provisional three year basis. The course approval and examination inspection will normally be carried out at the same time, but not exclusively so.
- The schedule for audit will be prepared annually by the Chief Examiner and published at the Examiners' Panel meeting
- The EC reserves the right, to initiate a spot audit out of sequence where QA issues have been identified.

Implementing the Audit

- The Chief Examiner will normally appoint the auditor (Normally only one auditor is needed, but can be increased to provide mentoring or monitoring of auditor)
- The Chief Examiner will determine the scope of the audit (Course Approval, Examination inspection, special audit (monitoring only certain aspects) and advise the auditor
- The auditor will contact the centre to arrange a date for visit and request relevant information (e.g. Course timetable, Examination schedule)
- At the commencement of the audit, the auditor will hold an introductory meeting with centre representatives advising the scope of the audit and agree the availability of staff and resources. Minutes of this opening meeting should be included in the audit report
- Carry out the audit following appropriate guidance
- At the end of the audit visit, the auditor will carry out a feedback meeting with the centre representatives highlighting the auditor's initial findings. Minutes of this feedback meeting should be included in the audit report.
- The auditor will prepare a report in an appropriate format. If the auditor is not the Chief Examiner, the report should be submitted to the Chief Examiner for submission to EC
- The Chief Examiner will submit the report to the EC and MCG
- The EC and MCG will send a written copy of the report with any action plan to the centre
- In the case of course approval, the Secretary on behalf of the EC will write to the MCA advising of the outcome of course approval.

12.9.4 THE AUDIT VISIT

Course Approval Audit

- The audit should commence with an introductory meeting where introductions are made, the centre is informed of scope of the audit and a timetable and lines of communication agreed. The centre should use this meeting to advise the auditor of any changes since the last audit, special circumstances which may affect the audit and the outcome of any previous action plans.
- The audit should be carried out using the paperwork guidelines issued by the EC and should include:
 - Meetings with deliverers
 - Observation of training sessions
 - Inspection of learning materials
 - Assessment of centre's quality procedures (team meetings, H&S, course records)
 - Meetings with candidates
- The auditor, at the end, should hold a meeting with the centre's representatives and advise them of the interim findings. The response of the centre to these findings should be included in the minutes of this meeting.

Examination Inspection

- The Inspection should commence with an introductory meeting where introductions are made, the centre is informed of scope of the inspection, a timetable and lines of communication agreed. The centre should use this meeting to advise the auditor of any changes since the last inspection, special circumstances which may affect the inspection. The meeting should include a review of any previous action plans.
- The inspection should be carried out using the paperwork guidelines issued by the EC and should include:
 - Observation of the examination
 - Observation of more than one examiner where possible
 - Inspection of examination records
 - Sampling of previous scripts if deemed necessary
 - Meetings with examiners
 - Meetings with candidates
- The auditor should at the end hold a meeting with the centre's representatives and advise them of the initial findings. The response of the centre to these findings should be included in the minutes of this meeting.

12.10 VENUE GUIDELINES

AMERC will use the following guidelines when deciding the maximum number of delegates for exam centre and course approvals.

- A **minimum** requirement of 3m² floor space per delegate. [Including equipment fit]

Requirements for written examinations

- A minimum desk/writing area 3600cm² [not less than 50cm width or depth]
- Separate chair. [Seminar chairs with fold back writing area will not be approved]
- Minimum 1m separation between separate desks.
- Spacing to a minimum of 60cm must be provided with suitable screening between writing areas where delegates are seated at a single long desk

Health and Safety.

The course provider must ensure that the venue complies with current H&S and Fire Regulations in the country of operation.

12.11 PROCEDURE FOR NEW CENTRES

12.11.1 HANDBOOK

In the first instance, reference should be made to www.amerc.ac.uk and the GMDSS Examination Administration Handbook. Further reference should be made to www.mntb.org.uk and the GMDSS GOC and ROC Course Criteria.

The *Course Approval* is conducted by AMERC Ltd on behalf of the MCA (STCW Regulation IV/2, STCW Code Section A IV/2).

Particular attention should be paid to the List of Equipment and Support Material. A minimum equipment fit is listed. Only 'live' Marine Equipment and approved simulator equipment is permitted for the conduct of the Examination.

The classroom facilities must be fit for purpose (Appendix 12.10) and will go some way in deciding maximum class size. Normally class size for course approval purposes will be limited to 8 students per full set of GMDSS Equipment per Instructor (see GMDSS Examination Administration Handbook and MNTB Guidelines).

12.11.2 PROCEDURE.

An application should be made in the first instance to the Company Secretary of AMERC Ltd. The Company Secretary will inform the MCA that an application has been made.

AMERC Ltd requires a timetable for delivery of the course set against the requirements of the syllabus CEPT T/R 31-03 E and MNTB Guidelines. The course length (GMDSS GOC) should be a minimum of 60 hours duration which includes 2.5 hours for the examination.

A full set of course notes is required. Lesson plans are also required which will give details of course delivery mapped from the course timetable.

12.11.3 COURSE APPROVAL

- The new centre submits details of their Course, Equipment and CVs of their teaching and examining staff to the Executive Committee of AMERC Ltd. One member of staff should be identified as the REC Coordinator.
- If satisfactory the EC grants provisional course approval (MCA advised)
- During the first THREE courses a member of the EC or the Chief Examiner will visit the centre, check facilities and observe a portion of the course delivery. If satisfactory, course approval will be confirmed.
- Course Approvals - Course Approvals are subject to quality assurance audit visits on a rotational basis by the Chief Examiner or one of his deputies - the cost being met by AMERC Ltd. Any change in location or significant change in equipment will also require a visit. Where the Executive Committee require a revisit due to non compliance this will be at the Centre's expense.

12.11.4 EXAMINATION APPROVAL

- A UK examiner, with the centre's examiners observing, will carry out the initial examinations.
- The UK examiner will provide the Examiner training. The examiner training will be delivered to TWO members of staff who will have a UK GMDSS GOC Qualification. It may be necessary to send TWO members of staff to the UK for training and certification.
- Lecturers should have taught the GMDSS GOC for a minimum of 6 months before being considered for examiner status. This ruling may be waived for new centres – each case to be considered on its merits by the AMERC Executive Committee. New examiners would then be operating under the supervision of the REC Coordinator for a probationary period of 3 months.
- Normally the course instructors will also be examiners.
- For the first 6 batches of examinations, the General Knowledge examination papers are sent to the Chief Examiner for checking. These 6 batches must include at least 36 first time examinees (not resit candidates).
- A UK examiner will attend further examinations, observing the new centre's examiners, providing guidance and feedback to the centre and the examiners.
- After each set of examinations the UK examiner will report to the Maritime Consultation Group on the centre's progress.
- Upon completion of a suitable number (THREE) of satisfactory reports, the centre will be allowed to commence their probationary period, during which the centre will conduct the examinations unsupervised.
- The cost of EC member and UK examiner visits to the Centre will be covered by the centre, and will be charged at a rate no greater than the MCA's rate current at the time. The Company Secretary will provide indicative costs.
- Examination Approvals - Examination Approvals are subject to quality assurance audit visits on a rotational basis by the Chief Examiner or one of his deputies - the cost being met by AMERC Ltd. Where the Executive Committee require a revisit due to non compliance this will be at the Centre's expense.

