



MARITIME INDUSTRY AUTHORITY

STCW Circular No. 2016- 17

TO: ALL SEAFARERS, MARITIME INDUSTRY STAKEHOLDERS, MARITIME HIGHER EDUCATION INSTITUTIONS, MARITIME TRAINING INSTITUTIONS, PORT STATE CONTROL, OTHER ENTITIES AND INDIVIDUAL CONCERNED

SUBJECT: MANDATORY MINIMUM REQUIREMENTS FOR EXAMINATION, ASSESSMENT, ISSUANCE AND REVALIDATION OF GMDSS RADIO OPERATOR CERTIFICATE

Pursuant to Presidential Decree 474, Republic Act 10635 and its Implementing Rules and Regulation (IRR), the 1978 International Convention on Standard of Training, Certification and Watchkeeping (STCW), as amended, the following rules shall be adopted.

1. OBJECTIVES

To prescribe policies, standards, and procedures on mandatory minimum requirements for examination, assessment, issuance and revalidation of GMDSS Radio Operator Certificate under the requirements of STCW Regulation IV/2.

2. COVERAGE

The provisions of this Circular shall apply to all applicants for Certificate of Competency (COC) for the Global Maritime Distress and Safety System (GMDSS) Radio Operator under Chapter IV of the STCW Convention as amended in 2010:

- .1 Radio Electronic Certificate (REC);
- .2 General Operator Certificate (GOC);
- .3 Restricted Operator Certificate (ROC)

3. DEFINITION OF TERMS

For the purpose of this Circular, in addition to the terms defined under STCW Circular No. 2014-01, the following terms shall be defined as follows:

- .1 **"Candidate"** - any seafarer who intends to undergo examination and assessment of competence to qualify for certification as GMDSS Radio Operator under Chapter IV of the STCW Convention as amended;
- .2 **"Approved education and training program"** - the training program approved by the Administration for the purpose of qualifying as GMDSS Radio Operator;
- .3 **"Resit"** - refers to taking the written examination or practical assessment for the same competence due to previous failure or incomplete examination;

- .4 **"Certificate of Competency (COC)"** - a certificate issued and endorsed for masters, officers and GMDSS Radio Operators or any person qualified for the issuance of certificates in accordance with the provisions of regulation IV/2 of the STCW Convention;
- .5 **"Seafarer's Certification System (SCS)"** refers to the MARINA Seafarer's Certification System, where all relevant data and documentary evidence relating to the issuance of the seafarer's STCW Certificates (COC, COE, COP) are systematically organized, and where all approved providers of such data and documentary evidence must be enrolled in order for the Administration to validate the authenticity of such;
- .6 **"Radio Regulations"** - the Radio Regulations annexed to, or regarded as being annexed to, the most recent international telecommunication convention which may be in force at any time;
- .7 **"GMDSS"** (Global Maritime Distress and Safety System) - an international system which uses improved terrestrial and satellite technology and ship-board radio systems. It ensures rapid alerting of shore-based rescue and communications authorities in the event of an emergency;
- .8 **"GMDSS Radio Operator (GRO)"** - a person who is qualified in accordance with the provisions of chapter IV of the STCW Convention;
- .9 **"Restricted Operator's Certificate (ROC)"** - a certificate issued to a GMDSS Radio Operator authorized to operate in GMDSS Sea Area A1 only. It does not include electronic maintenance;
- .10 **"General Operator's Certificate (GOC)"** - a certificate issued to a GMDSS Radio Operator authorized to operate in GMDSS Sea Area A1, A2, A3 and A4. It does not include electronic maintenance;
- .11 **"First-Class Radio Electronic Certificate"** - The first category of the GMDSS Radio Operator as per ITU and the STCW Code Part B, as recommended. It also includes both operation and electronic maintenance;
- .12 **"Second-Class Radio Electronic Certificate"** - The second category of the GMDSS Radio Operator as per ITU and STCW Code Part B as recommended. It also includes both operation and electronic maintenance;
- .13 **"Radio Electronic Certificate (REC)"** - refers to both First-Class Radio Electronic Certificate (1st Class REC) and Second-Class Radio Electronic Certificate (2nd Class REC);
- .14 **"Sea Area A1"** - An area within the radiotelephone coverage of at least one VHF coast station in which continuous digital selective calling (Ch.70/156.525 MHz) alerting and radiotelephony services are available. Such area could extend typically 30 to 40 nautical miles (56 to 74 km) from the Coast Station;

4. GENERAL PROVISIONS

.1 **Categories of GMDSS Radio Operator's certificates:**

There are four categories of certificates shown in descending order of requirements for personnel of ship stations and ship earth stations. An operator meeting the requirements of a higher certificate are qualified for the issuance of lower order certificates.

- 1) First-Class Radio Electronic Certificate (1st Class REC)
- 2) Second-Class Radio Electronic Certificate (2nd Class REC)
- 3) General Operator's Certificate (GOC)
- 4) Restricted Operator's Certificate (ROC)

- .2 The education and training of REC, GOC and ROC shall be in accordance with Table A-IV/2 and Section B-IV/2 of the STCW Code.
- .3 The examination and assessment of seafarers to qualify for the issuance of REC, GOC and ROC shall be in accordance with Section A-IV/2, paragraph 4.
- .4 The issuance of certificates for REC, GOC and ROC shall be in accordance with regulation IV/2, I/9 and I/2 paragraph 13 of the STCW Convention.
- .5 The revalidation of REC, GOC and ROC shall be in accordance with Regulation I/11 of the STCW Convention.

5. EDUCATION AND TRAINING FOR GMDSS RADIO OPERATORS

.1 In order to qualify for the issuance of certificate for GMDSS Radio Operator, the candidate shall comply with the following education and training:

- .1 1st Class Radio Electronic Course leading to the award of Certificate of Completion for Radio Electronic Certificate (REC);
- .2 GOC for GMDSS Course leading to the award of Certificate of Completion for General Operator Certificate (GOC);
- .3 ROC for GMDSS Course leading to the award of Certificate of Completion for Restricted Operator Certificate (ROC).

.2 MTIs shall come up with its own design and structure of training program in accordance with Table A-IV/2 and Section B-IV/2 of the STCW Code. The said training program shall consist of the following minimum components:

- .1 Course Framework;
- .2 Course Outline and Time table;
- .3 Detailed Teaching Syllabus;
- .4 Instructor Manual; and
- .5 Evaluation

.3 All course packages developed by MTI for GMDSS Radio Operator shall be submitted and approved by the Administration.

- .4 Every candidate for certification shall provide evidence of having achieved the required standard of competence prescribed in Table A-IV/2 and Section B-IV/2 of the STCW Code.

6. EXAMINATION AND ASSESSMENT

- .1 Every candidate for REC, GOC and ROC shall undergo an assessment of competence by passing the written examination and practical assessment.
- .2 The Table of Specification as prescribe in Annex 3, 4, 5, 6, 7 and 8 shall be followed In the formulation of questionnaires and conduct of examination and assessment.
- .3 A candidate who fails in any competence may apply for a resit. MARINA shall schedule the resit based on the availability of slots.
- .4 A passing mark of at least 70% of the raw score for each competence is required to pass the written examinations while the practical assessment will require "PASSED" mark. Both written examination and practical assessment shall be completed and passed by the candidate in order to qualify for the issuance of COC.
- .5 An examinee who fails either written examination or practical assessment may be given a chance to complete the failed examination or assessment within a period of two (2) years from the date of his last examination. If the candidate fails to complete all the competences within the 2-year period, those that received "PASSED" mark beyond two (2) years shall expire and re-examined accordingly.
- .6 The written examination shall be formulated to comply with the competences prescribed in Table A-IV/2 of STCW Code in reference to Annex 3, 5 and 7 of this Circular, while the practical assessment shall be formulated with reference to Annex 4, 6 and 8.
- .7 A candidate may take the written examinations or practical assessment in any order.

7. GENERAL REQUIREMENTS FOR ISSUANCE OF CERTIFICATE OF COMPETENCY (COC) FOR GMDSS RADIO OPERATOR

- .1 For Restricted Operator Certificate (ROC)
 - .1 Every candidate for certification of competency for Restricted Operator's Certificate (ROC) shall:
 - .1 be not less than 18 years of age;
 - .2 meet the standards of medical fitness prescribed by regulation I/9 of the STCW Convention;
 - .3 have completed approved education and training and meet the standard of competence specified in section A-IV/2 of the STCW Code; and

- .4 have passed the written examination and practical assessment specified in Annex 3 and 4 of this Circular.
 - .2 Graduates of courses other than Bachelor of Science in Marine Transportation (BSMT) may be issued a Restricted Operator Certificate (ROC) provided that the applicant shall submit a certification issued by the employer stating that the nature of work of the applicant is relevant to the operation of GMDSS (equipment carriage for Sea Area A1).
 - .2 For General Operator Certificate (GOC)
 - .1 Every candidate for certification of competency for General Operator Certificate (GOC) shall:
 - .1 be not less than 18 years of age;
 - .2 meet the standards of medical fitness prescribed by regulation I/9 of the STCW Convention;
 - .3 have completed approved education and training and meet the standard of competence specified in section A-IV/2 of the STCW Code; and
 - .4 have passed the written examination and practical assessment specified in Annex 5 and 6 of this Circular.
 - .2 Graduates of courses other than Bachelor of Science in Marine Transportation (BSMT) may be issued a General Operator Certificate (GOC) provided that the applicant shall submit a certification issued by the employer stating that the nature of work of the applicant is relevant to the operation of GMDSS (equipment carriage for all Sea Areas).
 - .3 For Radio Electronic Certificate (REC):
 - .1 Every candidate for certification of competency for Radio Electronic Certificate (REC) shall:
 - .1 be not less than 18 years of age;
 - .2 meet the standards of medical fitness prescribed by regulation I/9 of the STCW Convention;
 - .3 have completed approved education and training and meet the standard of competence specified in section B-IV/2 of the STCW Code; and
 - .4 have passed the written examination and practical assessment specified in Annex 7 and 8 of this Circular.
 - .2 Graduates of courses other than Bachelor of Science in Marine Transportation (BSMT) may be issued a Radio Electronic Certificate (REC) provided that the applicant shall submit a certification issued by the employer stating that the nature of work of the applicant is relevant to the operation of GMDSS (equipment carriage for all Sea Areas).

8. REQUIREMENTS FOR WRITTEN EXAMINATION AND PRACTICAL ASSESSMENT

- .1 Prior to written examination and practical assessment, every candidate for GMDSS Radio Operator shall submit the following:
 - .1 NSO Birth Certificate or Passport or SIRB or any government issued ID showing the identity of candidate and is not less than 18 years of age;
 - .2 Valid medical certificate from DOH-accredited medical clinic or hospital;
 - .3 Proof of successful completion of an approved education and training; and
 - .4 Proof of Seafarers' Certification System (SCS) registration.
- .2 The documents stated in section 8.1 shall be submitted through the following:
 - .1 STCW online system for uploading documents; or
 - .2 Examination and Assessment Division (EAD) of STCW Office of MARINA; or
 - .3 Walk-in applicants may apply directly at EAD central or regional offices.
- .3 The submitted documents will be validated and its authenticity verified after which, the applicant shall complete the form "Application for written examination or practical assessment as GMDSS Radio Operator" from either online or EAD central or regional offices;
- .4 Pay the corresponding examination fee, which shall be a fixed amount each time the candidate sits or resits for the examination or assessment;
- .5 Register in the Seafarers' Certification System (SCS) at www.scsmarina.ph.com;
- .6 Secure a schedule from EAD office or online; and
- .7 Proceed to the scheduled venue and time.
- .8 During the examination or assessment:
 - .1 Report to the examination venue at least 30 minutes prior to schedule;
 - .2 Follow the instructions of the authorized MARINA personnel;
 - .3 Complete the examination or assessment in every competence indicated within the time allowed;
 - .4 Do not leave the examination or assessment room unless announced.
- .9 After taking the examination or assessment:
 - .1 Obtain his ratings in all competences;
 - .2 Note the competences with a failing mark, if any; and

- .3 Schedule for re-sit, if necessary.

9. VALIDITY AND ISSUANCE OF CERTIFICATE OF COMPETENCY

- .1 An examinee who passed the examination and assessment provided for in Section 6 of this Circular shall be issued a Certificate of Competency (COC) for a period not exceeding five (5) years from the date of issuance.
- .2 An examinee who passed the examination and assessment provided for in Section 6 of this Circular but fails to secure the Certificate of Competency (COC) within five (5) years from the date of his last examination shall undergo practical assessment.

10. REVALIDATION OF CERTIFICATE OF COMPETENCY FOR GMDSS RADIO OPERATORS

- .1 A holder of a valid COC for GMDSS Radio Operator shall, in order to continue to qualify for seagoing service, at an interval not exceeding five (5) years, revalidate it by:
 - .1 meeting the standard of medical fitness prescribed by Regulation I/9 of the STCW Convention;
 - .2 establishing continued professional competence prescribed in Annex 9 of this Circular.

11. SCHEDULE OF FEES, PENALTIES AND FEES

The schedule of fees, penalties and fines shall be provided in a separate circular.

12. TRANSITORY PROVISIONS

- .1 The National Telecommunication Commission (NTC) may continue to conduct assessment of competence of GMDSS Radio Operator until December 29, 2016 only.
- .2 MARINA shall start accepting applications for examination from December 19, 2016, and shall commence the initial stages of implementation of examination and assessment process henceforth.
- .3 Marina shall accept applications with pending, conditional or partial "PASSED" results of examination or assessment conducted by National Telecommunication Commission (NTC) until December 29, 2017 only. Afterwards, the totality of the written examination and practical assessment of competence shall be conducted under the system of MARINA.

13. REPEALING CLAUSE

- .1 Any violation of the provisions of this Circular or of the requirements herein provided shall be dealt with accordingly under the existing applicable laws, rules and regulations of the STCW Administration.
- .2 All previous issuances by MARINA or any other Philippine government agency which are contrary or inconsistent with this Circular shall be deemed repealed and/or superseded accordingly.

14. SEPARABILITY CLAUSE

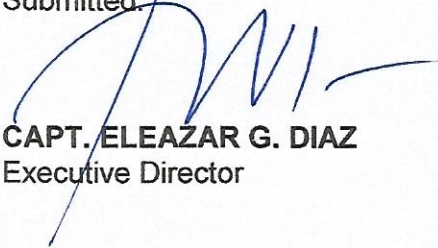
Should any provision or part of this Circular be declared by any competent authority to be invalid or unconstitutional, the remaining provisions or parts hereof shall remain in full force and effect and shall continue to be valid and effective.

15. EFFECTIVITY

This STCW Circular shall take effect immediately on the day of its publication.

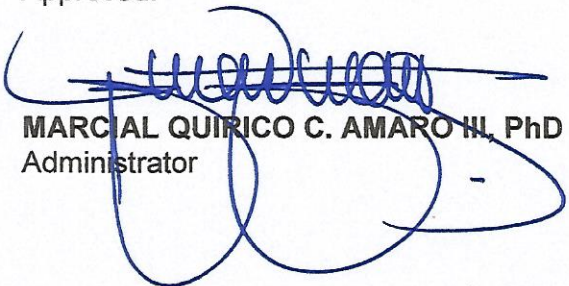
Manila, Philippines, December 15, 2016.

Submitted:



CAPT. ELEAZAR G. DIAZ
Executive Director

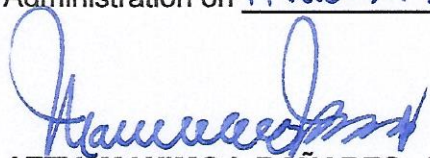
Approved:



MARCIAL QUIRICO C. AMARO III, PhD
Administrator

CERTIFICATION

This is to certify that STCW Circular No. 2016 - 17 was approved by the Administration on 14 December 2016.



ATTY. MAXIMO I. BAÑARES, JR.
Deputy Executive Director

COMPETENCY REQUIREMENTS

- .1 The table below shall be adopted to form the foundation of approved education and training for Restricted Operator Certificate (ROC) (equipment carriage for ship sailing in GMDSS Sea Area A1) and General Operator Certificate (GOC) (equipment carriage for all Sea Areas).

Specification of minimum standard of competence for GMDSS radio operators**Function: Radio-communications at the operational level**

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Transmit and receive information using GMDSS subsystems and equipment and fulfilling the functional requirements of GMDSS	<p>In addition to the requirements of the Radio Regulations, a knowledge of:</p> <ol style="list-style-type: none"> .1 search and rescue radio-communications, including procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual .2 the means to prevent the transmission of false distress alerts and the procedures to mitigate the effects of such alerts .3 ship reporting systems .4 radio medical services .5 use of the International Code of Signals and the IMO Standard Marine Communication Phrases .6 the English language, both written and spoken, for the communication of information relevant to safety of life at sea <p><i>Note:</i> This requirement may be reduced in the case of the Restricted Radio Operator's Certificate</p>	<p>Examination and assessment of evidence obtained from practical demonstration of operational procedures, using:</p> <ol style="list-style-type: none"> .1 approved equipment .2 GMDSS communication simulator, where appropriate .3 Radio-communication laboratory equipment 	<p>Transmission and reception of communications comply with international regulations and procedures and are carried out efficiently and effectively</p> <p>English language messages relevant to the safety of the ship, security and persons on board and protection of the marine environment are correctly handled</p>

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Provide radio services in emergencies	<p>The provision of radio services in emergencies such as:</p> <ul style="list-style-type: none"> .1 abandon ship .2 fire on board ship .3 partial or full breakdown of radio installations <p>Preventive measures for the safety of ship and personnel in connection with hazards related to radio equipment, including electrical and non-ionizing radiation hazards</p>	<p>Examination and assessment of evidence obtained from practical demonstration of operational procedures, using:</p> <ul style="list-style-type: none"> .1 approved equipment .2 GMDSS communication simulator, where appropriate .3 Radio-communication laboratory equipment 	<p>Response is carried out efficiently and effectively</p>

In addition to Annex 1, below shall be adopted to form the foundation of approved education and training for Radio Electronic Certificate (REC) (equipment carriage for ship sailing in all Sea Areas).

A candidate for Radio Electronic Certificate (REC) shall show knowledge and professional competence and shall pass the required examination for the following:

.1 Theory

Theoretical knowledge of the principle of electricity and the theory of radio and electronics sufficient to meet the requirements specified below:

- .1 Knowledge of GMDSS radio-communication equipment, including narrow-band direct printing telegraphy (NBDP) and radiotelephone transmitters and receivers, DSC equipment, ship earth stations, EPIRBs, marine antenna systems, radio equipment for survival craft including its auxiliary items, power supplies as well as general knowledge of the principles of equipment generally used for radio navigation with particular reference to maintaining the equipment in service;
- .2 Knowledge of the factors that affect system reliability, availability, maintenance procedures and proper use of test equipment;
- .3 Knowledge of microprocessors and fault diagnosis in systems using microprocessors;
- .4 Knowledge of control systems in the GMDSS radio equipment, including testing and analysis;
- .5 Knowledge of the use of computer software for the GMDSS radio equipment and methods for correcting fault caused by loss of software control of the equipment;

.2 Practical

- .1 antenna rigging, repair and maintenance, as appropriate;
- .2 reading and understanding pictorial, logic and circuit diagrams;
- .3 use and care of those tools and test instruments necessary to carry out at sea electronic maintenance;
- .4 manual soldering and desoldering techniques, including those involving semiconductor devices and modern circuits, and the ability to distinguish whether the circuit is suitable to be manually soldered or desoldered;
- .5 tracing and repair of faults to component level, where practicable, and to board/module level in other cases;
- .6 recognition and correction of conditions contributing to the fault occurring;
- .7 maintenance procedures, both preventive and corrective, for all GMDSS communication equipment and radio-navigation equipment; and
- .8 methods of alleviating electrical and electromagnetic interference such as bonding, shielding and bypassing.

TABLE OF SPECIFICATION OF WRITTEN EXAMINATION FOR RESTRICTED OPERATOR CERTIFICATE
(ROC)

(Equipment carriage for ship sailing in Sea Area A1)

Function: Radio-communications at the Operational Level

	Competence	Knowledge, Understanding & Proficiency (KUP)	Number of Questions	Time Allocated (minutes)	Passing Mark	Passing Percentage
C1	Transmit and receive information using GMDSS subsystems and equipment and fulfilling the functional requirements of GMDSS	1. Search and rescue radio-communications, including procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual.	10	10	7	70%
		2. The means to prevent the transmission of false alerts and the procedure to mitigate the effects of such alerts.	10	10	7	70%
		3. Ship reporting systems.	10	10	7	70%
		4. Radio medical services.	10	10	7	70%
		5. Use of the International Code of Signals and the IMO Standard Marine Communication Phrases.	10	10	7	70%
		6. The English language, both written and spoken, for the communication of information relevant to safety of life at sea.	10	10	7	70%
C2	Provide radio services in emergencies	1. Abandon ship	10	10	7	70%
		2. Fire on board ship	10	10	7	70%
		3. Partial or full breakdown of radio installations	10	10	7	70%
		4. Preventive measures for safety of ship and personnel in connection with hazards related to radio equipment, including electrical and non-ionizing radiation hazards	10	10	7	70%
GRAND TOTAL			100	100	70	70%

Notes:

1. There are two (2) competences in the written examination for Restricted Operator Certificate (ROC).
2. A candidate shall obtain 70% for each KUP in each competence in order to pass.
3. A candidate shall pass all the competences in the written examination within a period of NOT exceeding two (2) years from the date of his last examination.
4. The full written examination is designed to be completed in 100 minutes in one sitting.
5. A resit for the same competence on the same day is NOT allowed.

**TABLE OF SPECIFICATION OF PRACTICAL ASSESSMENT OF COMPETENCE FOR
RESTRICTED OPERATOR CERTIFICATE (ROC)
(Equipment carriage for ship sailing in Sea Area A1)**

Function: Radio-communications at the Operational Level

	Competence	Knowledge, understanding and proficiency (KUP)	Number of Exercises	Time Allocated (minutes)	Results
C1	Transmit and receive information using GMDSS subsystems and equipment and fulfilling the functional requirements of GMDSS	.1 Search and rescue radio-communications, including procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual	1	5	Passed or Failed
		.2 The means to prevent the transmission of false distress alerts and the procedures to mitigate the effects of such alerts	1	5	Passed or Failed
		.3 Ship reporting systems	1	5	Passed or Failed
		.4 Radio medical services	1	5	Passed or Failed
C2	Provide radio services in emergencies	1. Abandon ship	1	5	Passed or Failed
		2. Fire on board ship	1	5	Passed or Failed
		3. Partial or full breakdown of radio installations	1	5	Passed or Failed
	GRAND TOTAL		7	35	

Notes:

1. The candidate shall be tested in seven (7) scenarios for practical assessment. The candidate shall satisfactorily pass all scenarios.
2. A candidate shall pass all the scenarios of the practical assessment within a period of NOT exceeding two (2) years from the date of his last examination.
3. The full practical assessment is designed to be completed in 35 minutes in one sitting.
4. A resit for the same competence on the same day is NOT allowed.

TABLE OF SPECIFICATION OF WRITTEN EXAMINATION FOR GENERAL OPERATOR CERTIFICATE (GOC)

(Equipment carriage for ship sailing in all Sea Areas)

Function: Radio-communications at the Operational Level

	Competence	Knowledge, Understanding & Proficiency (KUP)	Number of Questions	Time Allocated (minutes)	Passing Mark	Passing Percentage
C1	Transmit and receive information using GMDSS subsystems and equipment and fulfilling the functional requirements of GMDSS	1. Search and rescue radio-communications, including procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual.	10	10	7	70%
		2. The means to prevent the transmission of false alerts and the procedure to mitigate the effects of such alerts.	10	10	7	70%
		3. Ship reporting systems.	10	10	7	70%
		4. Radio medical services.	10	10	7	70%
		5. Use of the International Code of Signals and the IMO Standard Marine Communication Phrases.	10	10	7	70%
		6. The English language, both written and spoken, for the communication of information relevant to safety of life at sea.	10	10	7	70%
C2	Provide radio services in emergencies	1. Abandon ship	10	10	7	70%
		2. Fire on board ship	10	10	7	70%
		3. Partial or full breakdown of radio installations	10	10	7	70%
		4. Preventive measures for safety of ship and personnel in connection with hazards related to radio equipment, including electrical and non-ionizing radiation hazards	10	10	7	70%
	GRAND TOTAL		100	100	70	70%

Notes:

1. There are two (2) competences in the written examination for General Operator Certificate (GOC).
2. A candidate shall obtain 70% for each KUP in each competence in order to pass.
3. A candidate shall pass all the competences in the written examination within a period of NOT exceeding two (2) years from the date of his last examination.
4. The full written examination is designed to be completed in 100 minutes in one sitting.
5. A resit for the same competence on the same day is NOT allowed.

**TABLE OF SPECIFICATION OF PRACTICAL ASSESSMENT OF COMPETENCE FOR
GENERAL OPERATOR CERTIFICATE (GOC)**

(Equipment carriage for all Sea Areas)

Function: Radio-communications at the Operational Level

	Competence	Knowledge, understanding and proficiency (KUP)	Number of Exercises	Time Allocated (minutes)	Result
C1	Transmit and receive information using GMDSS subsystems and equipment and fulfilling the functional requirements of GMDSS	.1 Search and rescue radio-communications, including procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual	1	5	Passed or Failed
		.2 The means to prevent the transmission of false distress alerts and the procedures to mitigate the effects of such alerts	1	5	Passed or Failed
		.3 Ship reporting systems	1	5	Passed or Failed
		.4 Radio medical services	1	5	Passed or Failed
C2	Provide radio services in emergencies	.1 Abandon ship	1	5	Passed or Failed
		.2 Fire on board ship	1	5	Passed or Failed
		.3 Partial or full breakdown of radio installations	1	5	Passed or Failed
	GRAND TOTAL		7	35	Passed or Failed

Notes:

1. The candidate shall be tested in seven (7) scenarios for practical assessment. The candidate shall satisfactorily pass all scenarios.
2. A candidate shall pass all the scenarios of the practical assessment within a period of NOT exceeding two (2) years from the date of his last examination.
3. The full practical assessment is designed to be completed in 35 minutes in one sitting.
4. A resit for the same competence on the same day is NOT allowed.

TABLE OF SPECIFICATION OF WRITTEN EXAMINATION FOR
RADIO ELECTRONIC CERTIFICATE (REC)

(Equipment carriage for ship sailing in all Sea Areas)

Function: Radio-communications at the Operational Level

	Competence	Number of Questions	Time Allocated (minutes)	Passing Mark	Passing Percentage
C1	Transmit and receive information using GMDSS subsystems and equipment and fulfilling the functional requirements of GMDSS	60	60	35	70%
C2	Provide radio services in emergencies.	40	40	35	70%
C3	Radio Electronics				
	Knowledge, Understanding & Proficiency:	10	10	7	70%
	.1 Knowledge of GMDSS radio-communication equipment, including narrow-band direct printing telegraphy (NBDP) and radiotelephone transmitters and receivers, DSC equipment, ship earth stations, EPIRBs, marine antenna systems, radio equipment for survival craft including its auxiliary items, power supplies as well as general knowledge of the principles of equipment generally used for radio navigation with particular reference to maintaining the equipment in service;	10	10	7	70%
	.2 Knowledge of the factors that affect system reliability, availability, maintenance procedures and proper use of test equipment;	10	10	7	70%
	.3 Knowledge of microprocessors and fault diagnosis in systems using microprocessors;	10	10	7	70%
	.4 Knowledge of control systems in the GMDSS radio equipment, including testing and analysis;	10	10	7	70%
	.5 Knowledge of the use of computer software for the GMDSS radio equipment and methods for correcting fault caused by loss of software control of the equipment.	10	10	7	70%
	GRAND TOTAL	150	150	105	70%

Notes:

1. There are three (3) competences in the written examination for Radio Electronic Certificate (REC).
2. A candidate shall obtain 70% for each competence in order to pass.
3. A candidate shall pass all the competences in the written examination within a period of NOT exceeding two (2) years from the date of his last examination.
4. The full written examination is designed to be completed in 150 minutes in one sitting.
5. A resit for the same competence on the same day is NOT allowed.
6. If the candidate is a GOC holder, he shall take only Competence 3.

**TABLE OF SPECIFICATION OF PRACTICAL ASSESSMENT OF COMPETENCE FOR
RADIO ELECTRONIC CERTIFICATE (REC)**

(Equipment carriage for all Sea Areas)

Function: Radio-communications at the Operational Level

	Competence	Knowledge, Understanding and Proficiency (KUP)	Number of Exercises	Time Allocated (minutes)	Results
C1	Transmit and receive information using GMDSS subsystems and equipment and fulfilling the functional requirements of GMDSS	.1 Search and rescue radio-communications, including procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual	1	5	Passed or Failed
		.2 The means to prevent the transmission of false distress alerts and the procedures to mitigate the effects of such alerts	1	5	Passed or Failed
		.3 Ship reporting systems	1	5	Passed or Failed
		.4 Radio medical services	1	5	Passed or Failed
C2	Provide radio services in emergencies	.1 Abandon ship	1	5	Passed or Failed
		.2 Fire on board ship	1	5	Passed or Failed
		.3 Partial or full breakdown of radio installations	1	5	Passed or Failed
C3	Radio Electronics	.1 Antenna rigging, repair and maintenance, as appropriate;	1	5	Passed or Failed
		.2 Reading and understanding pictorial, logic and circuit diagrams;	1	5	Passed or Failed
		.3 Use and care of those tools and test instruments necessary to carry out at sea electronic maintenance;	1	5	Passed or Failed
		.4 Manual soldering and desoldering techniques, including those involving semi-conductor devices and modern circuits, and the ability to distinguish whether the circuit is suitable to be manually soldered or desoldered;	1	5	Passed or Failed
		.5 Tracing and repair of faults to component level, where practicable, and to board/module level in other cases;	1	5	Passed or Failed
		.6 Recognition and correction of conditions contributing to the fault occurring;	1	5	Passed or Failed
		.7 Maintenance procedures, both preventive and corrective, for all GMDSS communication equipment and radio-navigation equipment; and	1	5	Passed or Failed
		.8 Methods of alleviating electrical & electromagnetic interference such as bonding, shielding and bypassing.	1	5	Passed or Failed
GRAND TOTAL			15	75	

Notes:

1. The candidate shall be tested in fifteen (15) scenarios for practical assessment. The candidate shall satisfactorily pass all scenarios.
2. A candidate shall pass all the scenarios of the practical assessment within a period of NOT exceeding two (2) years from the date of his last examination.
3. The full practical assessment is designed to be completed in 75 minutes in one sitting.
4. A resit for the same competence on the same day is NOT allowed.

Professional Competence

Continued professional competence as required by Section 10 of this Circular shall be established by:

- .1 Approved sea-going service, performing functions appropriate to GMDSS Radio Operator, for a period of at least:
 - .1 12 months in total during the preceding 5 years, or
 - .2 3 months in total during preceding 6 months immediately prior to revalidation; or
 - .2 having performed functions considered to be equivalent to the seagoing service where two (2) days of in-service experience ashore is equivalent to one (1) day of sea-going service (2:1 ratio) by any of the following:
 - .1 Service in the Administration specific to STCW related tasked.
 - .2 Service as active Naval or Coast Guard Officer or Auxiliary Officer in the Philippines fitted with GMDSS;
 - .3 Service as an Accredited Instructor, Supervisor or Assessor of Competence in an Approved Training Program (ATP) in a Maritime Training Institution (MTI) related to GMDSS Radio Operator courses;
 - .4 Service as an onboard instructor or assessor of competence related to GMDSS Radio Operator courses;
 - .6 Other such functions considered by the Administration as appropriate.
 - .3 passing an approved test; or
 - .4 successfully completed an approved training program that may be allowed by the Administration; or
 - .5 having completed approved seagoing service, performing functions appropriate to the certificate held, for a period of not less than 3 months in a supernumerary capacity.
- .2 The equivalent service and the actual sea going service may be combined proportionately to meet the requirement for revalidation.
- .3 For non-deck officers and other land-based ROC, GOC, and REC holders.

Applicant for revalidation of COC shall provide proof (certification issued by the employer etc.) that he/she performed duties appropriate to the Certificate held for a period of at least twelve (12) months in total during the preceding five (5) years.