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Radiocommunication Information Circular

Syllabus for the Restricted Operator's Certificate - Maritime Commercial (ROC-MC)

Preface

Radiocommunication Information Circulars are issued for the guidance of those engaged in radiocommunications in Canada. The information contained in these circulars is subject to change without notice. It is therefore suggested that interested persons consult the nearest district office of Industry Canada for additional details. While every reasonable effort has been made to ensure accuracy, no warranty is expressed or implied. As well, these circulars have no status in law.

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Radiocommunications and
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All Spectrum Management and Telecommunications publications are available on the following website: <http://ic.gc.ca/spectrum>.

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1. Intent

The material presented in this publication covers the scope of the examination for the Restricted Operator's Certificate - Maritime Commercial (ROC-MC) for the Global Maritime Distress and Safety System (GMDSS). For information on other certificates, see Radiocommunication Information Circular 16, *Professional Radio Operator Certificates* (RIC-16).

The training and assessment for the ROC-MC may be provided by trainers/examiners at accredited marine training institutes, marine industry companies and organizations, or marine equipment suppliers. A list of organizations accredited to train and examine candidates for the ROC-MC is given in Annex A.

2. Background

Canada is a member of the International Telecommunication Union (ITU), an organization established to maintain and extend international cooperation for the improvement and rational use of telecommunications of all kinds. To this end, the ITU fosters collaboration among its members to establish basic standards for communication procedures and practices, frequency allocation, and radio regulations on a worldwide basis. In 1987, the ITU World Administrative Conference for the Mobile Services adopted the necessary provisions in the international *Radio Regulations* to introduce the GMDSS.

Canada is also a member of the International Maritime Organization (IMO), which in close cooperation with the ITU, recommends practices for the establishment of maritime communications systems to serve the international marine community. As part of its work, IMO has mandated the minimum requirements that radio operators must meet with respect to GMDSS certification.

Industry Canada administers radiocommunications in Canada, based on both national and international acts, regulations and conventions. Marine operations in Canada are generally regulated by the Marine Safety Branch of Transport Canada. Marine Safety Branch, through their *Marine Personnel Regulations* (*Canada Shipping Act* (CSA) 2001)) requires that ships, which are required to be fitted with a ship radio station in accordance with the *Ship Station (Radio) Regulations* (SSR), carry persons who hold the appropriate operator certification.

3. Related Documents

Industry Canada documents are available on the Spectrum Management and Telecommunications website at www.ic.gc.ca/spectrum in *Official Publications*.

RIC-16 *Professional Radio Operator Certificates*

Canadian Coast Guard *Radio Aids to Marine Navigation*

Canadian Coast Guard *Notices to Mariners*

Canadian Coast Guard publications are available on the Internet at the following address:

<http://www.ccg-gcc.gc.ca>.

International
Telecommunication
Union

Radio Regulations

4. GMDSS

The Global Maritime Distress and Safety System (GMDSS) was implemented over a seven-year period, commencing February 1, 1992 and ending on February 1, 1999. This worldwide system enhances the assistance that can be given to ships in distress and urgency situations. Certificate requirements and background on the GMDSS can be found in RIC-16. Current information on the progress and implementation of GMDSS shore-based facilities is available in the latest edition of the Canadian Coast Guard Publication *Radio Aids to Marine Navigation* (RAMN) and the annual edition of *Notices to Mariners*.

Generally speaking, in accordance with the SSR, compulsorily-fitted ships with Very High-Frequency (VHF) radiotelephones must carry persons who hold a Restricted Operator's Certificate - Maritime Commercial, and compulsorily-fitted ships with Medium Frequency (MF) or Medium Frequency/High Frequency (MF/HF) radiotelephones, or ship earth stations, must carry persons who hold either a General Operator Certificate (GOC) or a Radiocommunication Operator General Certificate Maritime (RGMC). There are two exceptions to these requirements:

- Radio operators on “small fishing vessels.”: A small fishing vessel is defined in Transport Canada's *Small Fishing Vessel Inspection Regulations*, as a vessel that is not a sailing ship, exceeds 15 tons (gross tonnage), is used in commercial fishing, but does not exceed 150 tons, (gross tonnage) and does not exceed 24.4 metres in length. This exception permits such vessels, when fitted with MF or HF transmitting equipment, or both, to carry radio operators holding only a Restricted Operator's Certificate - Maritime Commercial.
- Radio operators on vessels using the Athabasca-Mackenzie inland waterways: Even though HF radios may be carried by vessels on this waterway, the HF frequency used is outside of the marine bands. The only marine frequencies used in certain areas of this waterway are in the VHF band. Consequently, operators on these vessels are only required to hold a Restricted Operator's Certificate - Maritime Commercial.

Note: Even if a vessel's radio station is exempted from licensing, the operator is still required to hold the appropriate radio operator's certificate for the equipment carried. (*Radiocommunication Regulations* - Sections 33 and 34.(2))

5. ROC-MC

The Restricted Operator's Certificate - Maritime Commercial (ROC-MC) as described herein, is intended for mariners, serving on compulsorily-fitted commercial ships within the North American A1 Sea Area as defined in *Radio Aids to Marine Navigation*. The ROC-MC is compliant with the *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978*, as amended (STCW 95 Regulation IV/2).

Other publications that may be of assistance to candidates preparing for the ROC-MC examinations are the *Radio Aids to Marine Navigation* (RAMN) and, to a lesser extent, the *Ship Station (Radio) Regulations* (SSR) and the *Ship Station Technical Regulations* (SST). These last two documents have been established in accordance with the CSA.

5.1 Eligibility

It should be noted that STCW 95 IV/2 incorporates a minimum age requirement of 18 years in order to hold this operator certificate. There are no nationality requirements for issuance of the ROC-MC certificate. The ROC-MC certificate is good for life and does not require a photograph or revalidation. Industry Canada may issue a replacement certificate if the original is lost, stolen or destroyed.

6. Training and Examination

6.1 Full Course

Training will consist of approximately 50% theory and 50% practical instruction using an approved GMDSS simulator or installed equipment. The course will consist of 20 hours of training. To accommodate testing, four hours will be added for review of the material covered and for both theory and practical examinations (one hour for the written component and three hours to allow for practical evaluation).

6.2 Abridged Course

To accommodate candidates who have operational experience in marine communications, provisions have been made for an "Abridged Course Training Stream". This abridged course reduces the time spent on basic radiocommunication techniques in order to concentrate on GMDSS related topics. As indicated in the syllabus (Annex B), the course will consist of 10 hours of training. An additional four hours will be required to review the material covered and for both theory and practical examinations (one hour for the written component and 15 minutes per student to allow for practical evaluation).

6.3 Refresher

Certified operators who have not been active in marine communications for at least one year out of the last five are encouraged to take the abridged course as a refresher, or a challenge examination, prior to resuming their duties as an operator.

6.4 Challenge Exam

Accredited institutions may be authorized to conduct challenge examinations for candidates who have operational experience with marine communications and GMDSS. The examination will consist of a one hour written component and at least 15 minutes per candidate to allow for practical evaluation.

Candidates who fail to achieve a minimum of 50% on their first attempt of the challenge exam will not be allowed to rewrite the exam until 30 days have elapsed.

6.5 Pass Mark

For the successful completion of an ROC-MC, the pass mark for the examination is 70%.

6.6 Class Size

In order to ensure that students can receive an adequate level of practical instruction, a class size of a maximum of 12 students is recommended.

7. Accreditation

Industry Canada will accredit maritime organizations to provide training and assessment for the ROC-MC. Accreditation means that the program of instruction has been reviewed by Industry Canada to confirm that there are sufficient facilities, expertise and equipment available to ensure an appropriate level of training for candidates for the ROC-MC. In addition, these entities will be accredited to conduct ROC-MC examinations on behalf of Industry Canada. Information regarding successful candidates will be forwarded to Industry Canada who will then issue the certificate.

8. Methods for Demonstrating Proficiency

The Candidate will demonstrate proficiency through practical operational procedures using the following:

- approved equipment;
- a GMDSS communication simulator, where appropriate; and
- radio communication laboratory equipment.

Annex A - Accredited Institutions for ROC-MC Examinations**Western Region:****BCIT Marine Training Campus**

265 West Esplanade
North Vancouver, BC
V7M 1A5
Telephone: 604-453-4100
Fax: 604-985-2862

**Western Maritime Institute
A division of CE International
Consultants Limited**

3519 Hallberg Rd.
Ladysmith, BC
V9G 1K1
Telephone: 250-245-4455
Toll Free: 1-866-632-6888
Fax: 250-245-8881
Contact: Captain R.C.E. Bob Kitching,
Msc FRIN FCILT MNI Master
E-mail: info@maritimeed.com
Web: www.maritimeed.com

Ryan and Associates

1220 Esquimalt Ave.
West Vancouver, BC
V7T 1K3
Telephone: 604-341-8121
Contact: Peter Ryan, P. Eng.
Email: PeterRyan@telus.net

North Island College

2300 Ryan Rd.
Courtenay, BC
V9N 8N6
Telephone: 250-923-9700 or 250-923-9790
Fax: 250-923-9725
Contact: Alexandra Morley
E-mail: morley@nic.bc.ca

**Camosun College
School of Trades & Technology, CE**

Interurban Campus
4461 Interurban Rd.
Victoria, BC
V9E 2C1
Telephone: 250-370-4563
Fax: 250-370-4552
Contact: Grace Moises
Email: ttce@camosun.bc.ca

**Michael Calli
c/o Capp's Marine Education**

1324 7th Ave. East
Prince Rupert, BC
V8J 4G7
Telephone: 250-627-1265
Fax: 250-627-1365
E-mail: cappsmar@citytel.net

Safer Ocean Systems

214 Prideaux St.
Nanaimo, BC
V9R 2N1
Telephone: 250-755-7742
Peter's Cell: 250-252-0491
Sharon's Cell: 250-729-6146
Fax: 250-755-7711
Contact: Peter Jonker
Email: peter@saferoceans.com

Atlantic and Ontario Region:**The Great Lakes International
Marine Training Centre**

1450 8th St. East
PO Box 700
Owen Sound, ON
N4K 5R4
Telephone: 519-376-0840
Contact: Peter Buell
E-mail: pbuell@geogianc.on.ca
Web: <http://marinetraining.ca>

Marine Contract Training

NBCC St. Andrews
99 Augustus St.
Saint Andrews, NB
E5B 2E9
Telephone: 506-529-5074
Cell: 506-467-7323
Fax: 506-529-5112
Contact: Captain Loren L Fleet,
Coordinating Instructor
E-mail: loren.fleet@nbcc.ca

New Brunswick Community College

9 St-Pierre Blvd. East
Caraquet, NB
E1W 1B6
Telephone: 506-726-2500
Fax: 506-726-2408
Contact: Luc Leblanc
E-mail: luc.leblanc@gnb.ca

Marine Institute**Memorial University of Newfoundland**

PO Box 4920
St. John's, NL
A1C 5R3
Telephone: 709-778-0354
Fax: 709-778-0664
Contact: Fred Meadus
E-mail: Fred.Meadus@mi.mun.ca

Canadian Coast Guard College

1190 Westmount Rd.
Sydney, NS
B1R 2J6
Telephone: 902-564-3660 ext. 1384
Fax: 902-567-3213
Contact: Robert Perchard,
Superintendent MCTS Training
E-mail: Robert.Perchard@dfo-mpo.gc.ca

Nova Scotia Community College (NSCC)**Nautical Institute**

226 Reeves St.
Port Hawkesbury, NS
B9A 2A2
Telephone: 902-625-4228
Fax: 902-625-0193
Contact: Administrative Assistance to
Academic Chair - Marine
E-mail: emily.hartley@nsc.ca

Nova Scotia Community College**Strait Area Campus School of Fisheries**

P.O. Box 700
Pictou, NS
B0K 1H0
Telephone: 902-485-8031
Fax: 902-485-7065
E-mail: nssf@nsc.ca

**Canadian Coast Guard
Rescue Training Centre
Canadian Coast Guard Base**
P.O. Box 1000
Dartmouth, NS
B2Y 3Z8
Telephone: 902-426-2107
Fax: 902-426-4828
Contact: Phillip Walker or John Drake

**Centre de Formation
Service de l'éducation aux adultes
(Îles-de-la-Madeleine)**
50 Martinique Rd.
L'Étang-du-Nord, QC
G4T 3R7
Telephone: 418-986-5511 ext. 2101
Fax: 418-986-3603
Contact: Brigette Aucoin
E-mail: baucouin@csdesiles.qc.ca

Sea School of Newfoundland
P.O. Box 500
Holyrood, NL
A0A 2R0
Telephone: 709-229-3334
Contact: Jim Miller
E-mail: jmiller@seaschoolnfld.com

**Institut maritime du Québec
Service de la formation continue**
2965 Etchemin Rd.
Saint-Romuald, QC
Telephone: 418-835-1621
Fax: 418-835-0192
Contact: Larbi A. Yahia
E-mail: alarbi@imq.qc.ca

**Holland College
Marine Training Centre**
100 Water St.
Summerside, PE
C1N 1A9
Telephone: 902-888-6485
Fax: 902-888-6404
Contact: Steve MacFarlane
E-mail: smacfarlane@hollandc.pe.ca

Québec Region:

Cégep de la Gaspésie et des Îles
167 Grande-Allée East
P.O. Box 220
Grande-Rivière, QC
G0C 1V0
Telephone: 418-385-2241 ext. 4103
Fax: 418-385-2888
Contact: Nadine Méthot
E-mail: nmethot@cgaspesie.qc.ca

Annex B - Restricted Operator Certificate - Maritime Commercial (ROC-MC) - GMDSS Syllabus

Competence	Knowledge, Understanding and Proficiency	Full Course Time (Hrs.)	Abridged Course Time (Hrs.)
(A) Knowledge of the Basic Features of the Maritime Mobile Service	1. The General Principles and Basic Features of the Maritime Mobile Service: 1.1 Radiotelephone procedures. 1.2 Types of communications: Distress, urgency and safety communications; public correspondence; port operations, ship movement; intership and on board communications. 1.3 Types of stations: Ship stations, coast stations, Rescue Coordination Centres (RCCs); pilot stations, port stations and vessel traffic control stations. 1.4 Basic knowledge of frequency, bands, channelization (Basic propagation limitations of VHF - radio). 1.5 Basic knowledge of publications (RAMN, etc.). 1.6 Electrical and RF safety related to radio equipment	2.5	Not applicable
(B) Concept of the Global Maritime Distress and Safety System (GMDSS) Regulations	1. System Concept 1.1 GMDSS concept using VHF/DSC as a primary means of distress alerting, urgency, safety and for establishing routine communication to a coast and ship station. 1.2 MMSI concept & ramifications.	1.75	0.5
	2. Regulations 2.1 Definition of Sea Areas with emphasis on A1. 2.2 Watch keeping on VHF Distress DSC frequency, and VHF channel 16. 2.3 Equipment carriage requirement for Sea Area A1.	1.75	0.5

Competence	Knowledge, Understanding and Proficiency	Full Course Time (Hrs.)	Abridged Course Time (Hrs.)
©) Practical Knowledge, Operational Characteristics and Ability to Use the GMDSS Sub-system Equipment of a Ship Station	1. Ship Station Equipment 1.1 VHF/DSC watch receiver/modem, classes and types of DSC. 1.2 VHF R/T transceiver: channels, controls, usage and routine testing. 1.3 DSC call categories, distress, urgency, safety, ship's business and routine. 1.4 Call telecommand and traffic information: distress alerts, other calls, working channel information and acknowledgement of calls. 1.5 Record keeping (logs etc.). 1.6 Cancellation of false alerts. 1.7 2182 kHz watch receiver.	3.5	3.0 Section C 1.2 is not required
	2. Survival Craft Radio Equipment: Basic Operational Specifications Characteristics and Routine Testing: 2.1 Portable (immersion proof) VHF radios. 2.2 Search and Rescue Radar Transponders (SARTs). 2.3 Emergency Position Radio Beacons (EPIRBs).	2.0	0.5
	3. NAVTEX 3.1 Maritime Safety Information (MSI): Basic NAVTEX system concept. NAVAREAs. 3.2 NAVTEX receiver operational characteristics, set up procedures and message format.	2.5	0.5
(D) Distress, Safety and Routine Communication Procedures in the GMDSS	1. Distress, Urgency and Safety Communications 1.1 DSC Distress alert, sending, receiving and acknowledgement, cancellation of distress message. Distress relay. DSC urgency, safety calls and subsequent R/T traffic. On scene communication and SAR operations. 1.2 R/T Distress subsequent traffic. Urgency and Safety communications.	3.0	2.5
	2. Operational Procedures for General Communications 2.1 Using DSC to establish initial call. 2.2 Transmission and reception of routine R/T communications.	3.0	2.5
Total Time		20.0	10.0