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# RIC-1 – Guide for Examiners Accredited to Conduct Examinations for Amateur Radio Operator Certificates

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Issue 7

March 2022

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## ▼ Preface

Radiocommunication Information Circulars (RICs) are issued for the guidance of those engaged in radiocommunications in Canada. The information contained in these circulars is subject to change without notice. Interested persons should therefore consult the nearest Innovation, Science and Economic Development Canada (ISED) District Office for additional details. While every reasonable effort has been made to ensure the information is accurate, no warranty is expressed or implied. It is important to note that these circulars have no status in law.

This RIC has been updated to reflect the changes made to the *Radiocommunication Regulations*, specifically the rescinded ISED examination fee for Amateur Radio Operator Certificates. Other editorial changes that were made to the current issue include updates to outdated text, the removal of all three annexes for simplification, and the conversion of annex A into an electronic form, which is now available on the Amateur radio operator certificate services website for easy access. Information regarding the content of examinations was not updated in this issue.

Comments and suggestions may be directed to the following address:

Innovation, Science and Economic Development Canada  
Spectrum Management Operations Branch  
235 Queen Street (6th Floor)  
Ottawa ON K1A 0H5

Attention: Radio Licensing Policy

Email: [spectrumoperations-operationsduspectre@ised-isde.gc.ca](mailto:spectrumoperations-operationsduspectre@ised-isde.gc.ca)

All ISED publications related to spectrum management and telecommunications are available on the [Spectrum Management and Telecommunications](#) website.

## ▼ 1. Introduction

Accrediting examiners to conduct Amateur Radio Operator Certificate examinations is consistent with Innovation, Science and Economic Development Canada's (ISED) policy of improving the delivery of the various departmental programs offered to the general public. This policy provides improved access to examiners for candidates wishing to obtain an Amateur Radio Operator Certificate.

## ▼ 2. Purpose

This circular outlines the policies and procedures for examiners who conduct Amateur Radio Operator Certificate examinations on behalf of ISED.

## ▼ 3. Accreditation

This section explains who is eligible to be accredited to administer the qualification examinations for Amateur Radio Operator Certificates and outlines the compulsory requirements for accreditation.

### 3.1 Eligibility for accreditation

ISED may accredit any recognized Canadian educational institution, amateur radio club or individual to administer the qualification examinations for Amateur Radio Operator Certificates. In order to retain their accreditation, institutions and clubs must maintain qualified staff members who meet the requirements of section 3.2 to administer the qualification examinations.

### **3.2 Compulsory requirements**

All persons who administer qualification examinations must be holders of an Amateur Radio Operator Certificate with Basic, Morse Code (5 wpm) and Advanced qualifications, and be 18 years of age or older. For further details regarding Amateur Radio Operator Certificates, refer to Radiocommunication Information Circular RIC-3, *Information on the Amateur Radio Service*.

Having access to the [Amateur radio operator certificate services](#) website is a requirement of the accreditation process, and is required for accredited examiners to be able to generate exams from the updated question bank. Examiners should consult ISED's [Spectrum Management and Telecommunications](#) website for the most recent regulatory, procedural and policy information.

### **3.3 Accrediting educational institutions**

The educational institution should offer related training courses in amateur radio, including electronic theory, regulations pertaining to amateur service, Morse code (where applicable) and practical station operations. The application for accreditation

should be co-signed by the school principal, dean or president. Accredited educational institutions may nominate any suitably qualified staff member who meets the requirements outlined in section 3.2 to administer the qualification examinations.

Accredited examiners for educational institutions may determine prerequisite or course requirements before an examination can be taken.

### **3.4 Accrediting amateur radio clubs**

Amateur radio clubs that have members who are actively involved in providing training courses for the Amateur Radio Operator Certificate qualification examinations may nominate one or more individuals as accredited examiners. Clubs that nominate more than two examiners may be required to justify their request.

The application for accreditation should be co-signed by the club's president or vice-president. Amateur radio club examiners must agree to provide examination services to non-club members.

### **3.5 Accrediting individuals (sponsorship)**

Persons who wish to become accredited examiners, who meet all the requirements in section 3.2 and who live in areas where there are no local amateur radio clubs or educational institutions as defined in sections 3.3 or 3.4, may be sponsored by the Radio Amateurs of Canada (RAC). ISED will consider applications supported in writing by the RAC Regional Director for the region.

The expected number of examinations to be conducted versus the number of accredited examiners in any particular service area will be taken into consideration before additional examiners are accredited.

## ▼ 4. Accreditation procedures

This section outlines the procedures to become accredited to administer the qualification examinations for Amateur Radio Operator Certificates.

### 4.1 Application for accreditation

Educational institutions, amateur radio clubs and individuals may request accreditation via the [Amateur radio operator certificate services](#) website or by email to the Amateur Radio Service Centre (ARSC) at [spectrumamateur-spectreamateur@ised-isde.gc.ca](mailto:spectrumamateur-spectreamateur@ised-isde.gc.ca). If applying online, a signed Accredited Amateur Examiner Application Form ([ISED-ISDE3841](#)) must be attached to the request.

Alternatively, educational institutions, amateur radio clubs and individuals wishing to become accredited to conduct amateur examinations may submit the [ISED-ISDE3841](#) form to the following address:

Innovation, Science and Economic Development Canada  
Amateur Radio Service Centre  
2 Queen Street East  
Sault Ste. Marie ON P6A 1Y3

Telephone: 1-888-780-3333 (toll-free)

Fax: 1-705-941-4607

Email: [spectrumamateur-spectreamateur@ised-isde.gc.ca](mailto:spectrumamateur-spectreamateur@ised-isde.gc.ca)

The application includes a declaration to demonstrate the applicant's commitment to observe all departmental procedures in the administration of amateur examinations.

## 4.2 Letter of accreditation

Accreditation will be granted in the form of a letter of accreditation issued by ISED and, unless otherwise specified, the accreditation will be valid for three (3) years.

ISED reserves the right to cancel the accreditation of examiners at any time.

## 4.3 Briefing

The ARSC processes applications for accreditation. District offices will be consulted on initial appointments and are responsible for conducting initial briefings for examiners. Follow-up briefings will be conducted on an exceptional basis. Accredited examiners must be familiar with the examination content and format, how to mark the exam, and how to report results.

## 4.4 Renewal

To renew their accreditation, examiners must resubmit the ISED-ISDE3841 form using the ISED contact information provided in section 4.1. This procedure is required to confirm continuing support from sponsoring organizations. In some cases, a renewal briefing may be required if the individual has not been actively conducting examinations for a period during which many

changes have occurred or a period of three (3) years has passed since the examiner last conducted examinations and submitted results to the ARSC.

## ▼ 5. Accredited examiners

This section describes the roles and responsibilities of accredited examiners.

### 5.1 Conduct and duties

Examiners:

- are expected to conduct examinations with integrity and in a credible manner
- must not conduct examinations for immediate family members
- must advise the ARSC of any change in their mailing address, telephone number or email address
- should only provide examination services for persons residing within their province or territory (an exception would be in the case of border communities, where an examiner would normally be expected to provide service to residents of more than one province or territory; for other circumstances, the examiner should first consult the ARSC)

### 5.2 Examination documentation and procedures

Candidate application forms and examination materials are available on the [Amateur radio operator certificate services](#) website.



New exams need to be generated for every examination session in order to ensure that exam questions are current and that they do not reflect any errors that have been corrected in the database. ISED's Amateur radio exam generator must be used for this purpose.

To ensure examination integrity, examiners must store examination material in a secure location immediately after the completion of an examination.

The examiner must inform the candidate of examination results once the completed examination has been marked.

The examiner must submit the examination results of the successful candidates online or to the ARSC within ten (10) working days of the examination.

ISED will issue the Amateur Radio Operator Certificates, with appropriate qualifications, when examination results are received from the accredited examiner.

Examiners must preserve the confidentiality of information provided by candidates, such as birth dates and telephone numbers.

All completed written examinations and Morse code test material are to be retained by examiners for a period of at least three (3) years. If required, this material must be made available for ISED audits or other purposes. Disposal of aged examination material must be handled in a manner that will ensure confidentiality.

All examination material and records must be returned to the ARSC if the examiner resigns or if accreditation is withdrawn or

not renewed.

## **5.3 Examination fees**

As of December 16, 2020, ISED ceased charging fees for examinations conducted by ISED personnel. However, accredited examiners may charge an examination fee to candidates to recover the cost of administering an examination. There is no remittance, in whole or in part, of this fee to ISED.

## **▼ 6. Candidate requirements**

This section describes the requirements for candidates who wish to take Amateur Radio Operator Certificate examinations.

### **6.1 Age and nationality**

There are no age or nationality restrictions on those who take the examinations.

### **6.2 Conduct**

Candidates must follow the examiner's instructions. Failure to comply with instructions will result in the cancellation of the examination.

### **6.3 Identification**

To prevent fraud, candidates must provide adequate photo identification to the examiner prior to the examination.

### **6.4 Persons requiring accommodations**

Accredited examiners may not exempt a candidate from the requirement for an examination. However, accredited examiners may provide accommodated testing when a candidate is unable to complete an examination due to a disability.

When a candidate has a disability that prevents that person from completing a written examination, the examiner may conduct an oral examination by reading each exam question to the candidate. The candidate must obtain the required pass mark for the class of certificate sought (see section 7.3).

In the case of the Morse code examination, a candidate may have a disability that limits or prohibits the ability to either send or receive Morse code. In order to test the candidate's knowledge of Morse code, the sending portion of the examination should be conducted by asking the candidate to recite the exam text in Morse code. For the receiving portion of the exam, the examiner should send the required text manually and have the candidate verbalize the characters. The exam should be graded with respect to errors. Code speed cannot be taken into account in these cases.

The examiner may request that a candidate provide an attestation from a medical practitioner before conducting an accommodated examination. Such documentation is confidential and should be retained by the examiner for three (3) years. Examiners who are considering requesting an attestation are urged to consult with the ARSC.

## ▼ 7. Written examinations

This section details the requirements and procedures for administering the written examinations for Amateur Radio Operator Certificates. For details on administering the Morse code examination, see section 8.

## 7.1 Requirements

Examination requirements are described in [RIC-3](#).

There are four (4) qualifications associated with Amateur Radio Operator Certificates:

- Basic
- Basic with Honours
- Advanced
- Morse Code (5 wpm)

A candidate may attempt one or all qualifications at any time, but no certificate will be issued unless the candidate has passed the examination for the Basic Qualification.

Examinations must be based on the question banks for either Basic or Advanced qualifications located on the [Amateur radio exam generator](#) webpage.

## 7.2 Procedures

To ensure that candidates are aware of the examination procedures and conditions, examiners should take a few minutes before the exam to explain the examination process and answer any questions.

Due to the complex nature of the subject matter, candidates must be able to comprehend both the terminology and the technical

language used during the examination process without the need for detailed explanations by the examiner.

There is no time limit specified for examinations. Most examinations are completed within one (1) hour and would normally not take more than two (2) hours to complete. Examiners will use their discretion in ensuring that reasonable time is made available for the examination.

Examinations are closed book. Reference material must not be used during the examination. The use of calculators is permitted provided that the calculator does not have the capability of storing formulas or text. The examiner may forbid the use of calculators that are deemed unacceptable.

### **7.3 Pass marks**

The pass mark for a written examination is 70%.

However, a pass mark of 80% provides the candidate with additional high frequency (HF) operating privileges (< 30 MHz). This is referred to as "Basic with Honours" or "basic +."

Refer to section 8.7 for information related to Morse code testing and marking.

### **7.4 Re-examination**

A candidate who fails a written test may be retested as often as necessary, at the convenience of both the examiner and the candidate. The examiner must ensure that a different examination is used for each re-examination.

## ▼ 8. Morse code examinations

This section details the requirements and procedures for administering the Morse code examination.

### 8.1 Receiving and sending tests

For the receiving test, examiners may send Morse code by hand, cassette tape, or computer-generated code. Timing and length of text must be closely observed.

Examiners may produce their own tests based on the following Morse code specifications.

### 8.2 Morse code specifications

Candidates for the Morse Code (5 wpm) Qualification of the Amateur Radio Operator Certificate are required to:

- a. correctly send, by hand, a plain-language text, in international Morse code, for a minimum of three (3) consecutive minutes, at a speed of not less than 5 wpm, using an ordinary radiotelegraph key, a semi-automatic key or an electronic hand key
  - in addition to the 26 letters, the text may include figures, punctuation marks and Q-signals
- b. correctly receive, by ear, a plain-language text, in international Morse code, for a minimum of three (3) consecutive minutes, at a speed of not less than 5 wpm, copying legibly by hand, typewriter or word processor
  - in addition to the 26 letters, the text may include figures, punctuation marks and Q-signals

A Morse code "word" consists of five characters. The letters A through Z are counted as one (1) character each, and figures and punctuation signs are counted as two (2) characters each.

Morse code tests shall only use letters of the alphabet, numbers, the period, the comma, the question mark, the dash and the fraction bar.

The basic unit in Morse code is the dot. A dash is three dots long. Pauses between character elements are one dot long, pauses between characters are three dots long, and pauses between words are seven dots long.

Morse code shall be sent at a character speed of 12 wpm. It is the length of the spacing between characters and between words that determines the speed of the test. The additional time required for the 5 wpm space sequence is approximately 2.5 times as long at 5 wpm as it is for 12 wpm. Therefore, for the 5 wpm test, the spaces between letters would be approximately 7 dots in length, and the spaces between words approximately 17 dots in length.

To verify the speed of a Morse code sending machine, the word "Paris" sent five times in one minute results in a code speed of 5 wpm.

When the text is sent by the candidate, the speed of the characters is immaterial, as long as the necessary number of characters is sent. That is, at 5 wpm, at least 75 characters are sent in the three (3) minutes allocated. Any characters omitted at the end of the text due to lack of time will count as errors.

Accented letters are not to be used during Morse code testing.

## **8.3 Example of Morse code test**

### **Qualification for Morse code (5 wpm)**

FORECAST PERIODS WILL BE SHORTENED DURING HEAVY STORMS. FRONTAL ZONES KEEP QSJ 1962

The above example of Morse code shall not be used in an examination.

## **8.4 Briefing and familiarization**

Examiners should allow time for adjusting equipment, briefing and familiarization prior to the test. The familiarization may include sending and receiving sample texts, excluding the text being used for the examination. The text for the sending test shall be different from that of the receiving test.

## **8.5 Timing**

Examiners must ensure that the code receiving and sending examinations are timed.

## **8.6 Review**

Examiners shall allow two (2) minutes at the end of the receiving test for candidates to review their copy and make any changes or corrections, if necessary.

For the sending test, candidates may send the error signal and resend the character as many times as they wish, but they must send the complete text within the time allotted.

## **8.7 Marking**



Examiners shall assign marks for Morse code receiving tests by counting errors and giving a mark of 100% where there are 5 errors or less, 99% for 6 errors, 98% for 7 errors, 97% for 8 errors, and so on. The pass mark for code receiving is 100%.

Notations of dots and dashes on an examination paper will be considered as evidence of inability and cause for rejection of the test.

In both the sending and receiving Morse code tests, each character, including figures and punctuation, that is omitted or incorrectly sent or received, is counted as one (1) error.

## **8.8 Re-examination**

A candidate who fails a Morse code test may be retested as often as necessary, at the convenience of both the examiner and the candidate. The examiner must ensure that different Morse code tests are used for each re-examination.

## **▼ 9. Audits**

This section explains why and how ISED uses audits with regards to examinations for Amateur Radio Operator Certificates.

### **9.1 Purpose**

In order to ensure that departmental guidelines are adhered to and that accredited examiners remain up to date regarding amateur radio service policies and procedures, audits will be performed on a random sample basis. The frequency and the extent of the audit program are the responsibility of the area

manager with ISED.

It is also necessary to periodically perform audits to ensure that ISED has relevant, current and credible information on the effectiveness of the accredited examiner program. Audits are intended to be a constructive review.

As well, audits may be performed as a result of complaints lodged with ISED. The auditor will notify the accredited examiner, in writing, of any concerns that should be addressed. Where a discrepancy is discovered, the auditor will work with the examiner to correct the problem.

## 9.2 Fraud or negligence

Where the auditor determines that there may be a situation of fraud or negligence, or when valid complaints of such activities are received, the appropriate ISED District Office will conduct an investigation. Where warranted, ISED will revoke the accreditation of examiners. Certificates fraudulently issued may also be revoked.

### **Date modified:**

2022-03-22