

## **The 2<sup>nd</sup> Annual Report of the Radio Communication Examination Standards Committee, February 2008**

### **1. Introduction**

This is the second annual report of the Radio Communication Examination (RCE) Standards Committee, set up the terms of the agreement between Ofcom and the Radio Communication Foundation (RCF) for the conduct of amateur radio examinations (the Radio Communication Examinations).

The annual reports of the Standards Committee are published on the RCF website, <http://www.commsfoundation.org/rce/>. Other documents relevant to the RCE are also available on this website, including the terms of reference of the Standards Committee and the agreement between Ofcom and RCF.

### **2. Membership**

The membership of the Standards Committee is as follows:

Prof Simon Watts MBE FREng, G3XXH, Thales UK (Standards Committee Chairman)  
Prof Hugh Griffiths FREng, G4CNV, Principal, Defence Academy of the United Kingdom  
Dr Julian Gannaway, G3YGF, Roke Manor Research Ltd  
Murray Niman BSc MIEE, G6JYB, BAE Systems ATC  
Dave Powis BSc, G4HUP, College Lecturer

Steven Roper CEng FIET, G8MXZ, Ofcom

Alan Betts BSc CEng MIEE, G0HIQ (Chairman of RCE Examination Committee)  
Colin Richards, Chartered FCIPD, G3YCR, Consultant (RCE Quality Manager)

Anthony Vinters, G0WFG (RSGB, Training & Education)  
Dr R.C. Whelan, G3PJT, Smith Institute, (RCF Trustee)

### **3. Assessment of Overall Examination Performance**

The committee received detailed reports from the RCE Examination Committee and the RCE Quality Manager on the management and performance of the examination processes. Their reports are summarised below,

The Standards Committee is satisfied that the current Foundation, Intermediate and Advanced examination syllabuses are suitable for the award of Amateur Radio licenses. Further, the examinations are compatible with the CEPT harmonised arrangements set out in Recommendations TR 61-01 and TR 61-02. The committee will continue to review the syllabuses and examinations to ensure compatibility with international and national regulations.

### **4. Syllabus Revisions**

Syllabus changes to all examinations came into force during 2007, reflecting the introduction of the lifetime licence.

Revision of the syllabuses will occur from time to time. In all cases changes will be approved by the RCE Standards Committee and normally a notice period of at least 12 months will be given before they are implemented in examinations.

## 5. Review of the Examination Committee (EC) report.

### Question Banks

Following syllabus changes and the need to delete out-of-date questions, there is currently a significant shortfall in the number of questions available in the question banks, especially for the Intermediate and Advanced examinations.

The Standards Committee instructed the EC to consider urgently how additional questions may be acquired and to put into effect actions to correct the shortfall.

### Results for 2007

The table shows the number of examinations offered and the overall results for 2007. The 2006 results are shown in brackets.

	<b>Foundation</b>	<b>Intermediate</b>	<b>Advanced</b>
Number of Examination sessions	573+43=616 (640)	197+19=206 (230)	95 (154)
Number of Candidates	1836+129=1965 <sup>1</sup> (2034)	563+83=646 (625)	251+38=289 (446)
Number of Passes	1605 (1719)	526 (604)	161 (326)
Pass rate	87.4% (84.5%)	93.4% (96.6%)	64.1% (73%)

#### *Foundation Examination*

The numbers of candidates taking the Foundation Examination is down 3% on the number for 2006. There was an increase in the pass rate, which is encouraging.

The EC reported some concerns over the distribution of marks observed over the year. The pass mark is set at 18 marks but when averaged over all examinations in 2007 it was noted that fewer candidates were achieving 17 marks than were achieving 16 and there was a sharp jump in the distribution of marks between 17 and 18 marks. The Standards Committee has asked the Quality Manager to investigate and to ensure that appropriate quality control measures are in place to assure the probity of the marking system.

#### *Intermediate Examination*

The number of candidates increased by about 3% from the numbers in 2006. The pass rate was also down slightly but, as reported last year, it is still rather high. In an attempt to correct this, the EC have instituted some changes to the questions in the Intermediate Examination to place more emphasis on physics basics and understanding of the material (as opposed to factual recall alone). It is also possible that some changes to the syllabus will also be announced during 2008.

<sup>1</sup> The first figure should be used to calculate the pass rate. The second is the number of recent exams for which results were awaited at the time of writing this report.

It is hoped that these changes will also reduce the gap in difficulty between the Intermediate and Advanced Examinations.

#### *Advanced Examination*

There was a reduction of about 35% in the number of candidates during 2007 and also a significant reduction in the pass rate.

The Standards Committee has asked the RSGB to consider how the number of candidates taking the Advanced Examination may be improved. The EC was also concerned at the lack of basic understanding of some candidates, as evidenced by an analysis of the examination results. The EC is proposing to issue some guidance to tutors and candidates on the teaching of fundamental principles for all three examinations.

#### Pass Marks

There were no changes to the pass marks set for all the examinations during 2007.

### **6. Review of the Quality Manager's Report**

The work of the Quality manager has covered three main areas during 2007:

- The quality, consistency and relevance of the three exam syllabuses and exam questions.
- The exam procedures and administration.
- The conduct of examinations

Allied to this are the issues of quality control of documentation and QCA accreditation.

#### RSGB HQ

The examinations are administered by the RSGB, under the terms of an agreement between the RSGB and the RCF. The RSGB is relocating its HQ to Bedford during 2008 and the Quality manager will maintain contact with the staff over this period to assess any effects on the administration of the examinations.

#### Examination Administration

As reported in 2007, more than 10 days' notice is required for Intermediate and Foundation examinations. Less notice can cause considerable difficulties to the examination staff. In the last six months of 2007 there were 13 cases where less than 10 days' notice was given. For most of these the staff managed to accommodate these late requests but in 3 cases the centres were asked to change the date.

#### Conduct of Examinations

##### *Inspectors*

The Quality Manager has been asked by the Steering Committee to set up a team of independent inspectors to undertake inspections of examinations. This is progressing slowly, whilst suitable persons are sought. In the interim, the Quality manager will appoint, as he deems appropriate, RSGB Regional Managers and members of RSGB staff to undertake inspections.

##### *Inspections*

Standard procedures for inspecting examination centres are now in place. During the six months July to December 2007, unannounced inspections were made on 16 centres, in line with the aim of achieving inspections of 10% of examination centres each year.

At one centre, the examination was found to have finished over half an hour before the time it was scheduled to start. This is still the subject of investigation. It appears that there may be an innocent motive but nevertheless it is important that correct procedures are followed at all times.

At an inspection of a Foundation exam the inspector was placed in the difficult position of being asked obliquely to collude in passing a narrowly failed candidate, so as to preserve the centre's 100% pass rate. Needless to say, he did not. Since nothing actually happened that was amiss or could be proved and as the inspection was in order in other respects there is nothing formal to follow up on. Nevertheless that centre is earmarked for another inspection (as are two others where inspectors found nothing tangible amiss, but nevertheless felt that things might not have been perfect if they not been there). The inspector in this case did raise the whole issue of whether local marking was so open to abuse that it was not reliable. Hopefully the practice of adjusting the marks of narrowly-failed candidates is not endemic but it could explain the sharp change at the pass/fail border at Foundation level noted in the Examination Committee report. The Quality Manager and the Examination Committee will monitor this situation.

#### Quality Manual

As part of the development of a quality management process the Quality Manager has allocated responsibility for maintenance of documentation for syllabuses and their related guides and for inspection and registration documents. There is also a block of administrative documents which come under the remit of the RSGB examination manager. Much of this needs updating and the Quality Manager will continue to work with the RSGB on this.

#### QCA Accreditation

Anthony Vinters has been managing the preparation of documentation required for accreditation of the RCE with the QCA. This activity has been funded by the RSGB. A set of documentation has been submitted to the QCA for informal comment. It is expected that the QCA will report back early in 2008 on issues to be addressed. The Standards Committee believe that accreditation of the Advanced Examination by the QCA is a highly desirable aim and it should be actively pursued. Any accreditation would be for the RCF, who will be responsible for finalising the arrangements with the QCA.

### **7. Complaints Received by the RCE Examination Committee**

During the year, 21 questions were queried and all issues were resolved satisfactorily. There were no formal complaints received by the EC during 2007. The appeals procedure is published on the RSF RCE website <http://www.commsfoundation.org/rce/pdf/appeals.pdf>.

### **8. Recommendations**

The RCE Standards Committee made the following recommendations for action during 2008:

- Urgent consideration should be given by the Examination Committee to improving the supply of questions for the RCE question banks.
- The Quality manager should work with the Examination Committee to assure the quality of local marking of the Foundation Examinations.
- The Examination Committee will consider changes in the Intermediate Examination syllabus, giving at least 12 months' notice of any changes.
- The RSGB should be asked to consider how to improve the number of candidates taking the Advanced Examination.
- The Quality Manager should continue recruiting independent inspectors and in the interim may appoint RSGB Regional Managers and RSGB HQ staff as inspectors.
- The Quality Manager will continue development of the quality process, including a quality manual for the administration of the RCE.
- Accreditation of the RCE by the QCA should continue to be actively pursued during 2008.