

The 8th Annual Report of the Radio Communication Examination Standards Committee, June 2014

1. Introduction

This is the eighth annual report of the Radio Communication Examination (RCE) Standards Committee, a Committee set up under 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, (Standards Committee Chairman)

Prof Hugh Griffiths FREng, G4CNV, Department of Electronic & Electrical Engineering, UCL

Dr Julian Gannaway, G3YGF, Roke Manor Research Ltd

Murray Niman BSc MIEE, G6JYB, BAE Systems ATC

Dave Powis BSc, G4HUP, College Lecturer

Paul Jarvis, MCMI, G8RMM, Ofcom

Sqn Ldr Dave Taylor, M0NAV (Air Cadet Radio Officer)

Alan Betts BSc CEng MIEE MIFL, G0HIQ (Chairman of RCE Examination Committee)

Dave Wilson, M0OBW (Interim RCE Quality Manager)

Steve Hartley MSc CMIOSH AIEMA, G0FUW (RSGB Training and Education Committee Chairman)

3. Assessment of Overall Examination Performance

The committee received detailed reports from the Examination Committee, the RCE Quality Manager, the RSGB Examination Department and the Air Cadet Organisation, 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

The outstanding syllabus changes for the Intermediate and Foundation examinations have now been implemented in the question bank.

The EC has started a review of all three syllabuses that will continue over the next 2 or 3 years. The review will concentrate in particular on ensuring a steady progression from one

level to the next, with an aim of encouraging a higher proportion of candidates to progress to Intermediate and Advanced levels.

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

Membership

The EC was unsuccessful in recruiting in 2013 but still wishes to recruit new members with specialist qualifications, especially those with experience of a school education environment, familiar with the examination practices of major examination boards.

Question Banks

The committee is pleased to report that the Foundation and Intermediate examinations currently meet their specifications for questions. The shortfall of questions for the Advanced examination has reduced to 62, compared with 95 last year.

The EC writing pool of selected authors, led by EC member Richard Ferguson, produced 31 questions, with 20 being accepted for use. The first regional Item Writing Seminar organised in Sheffield by Steve Hartley produced 25 questions of which 14 were accepted with minor editing. It is hoped that this initiative will be repeated in due course.

Results for 2013

The table shows the number of examinations held and the overall results for 2013 with earlier years, 2012 down to 2006 for comparison.

		Foundation	Intermediate	Advanced
Number of Examination sessions	2013	594	274	183
	2012	606	261	199
	2011	581	235	152
	2010	605	239	121
	2009	643	260	155
	2008	614	265	169
	2007	616	206	95
	2006	640	230	154
Number of Candidates	2013	1759	736	473
	2012	1874	756	497
	2011	1837	694	408
	2010	1896	652	321
	2009	2021	704	426
	2008	2003	733	397
	2007	1965	646	289
	2006	2034	625	446

RCF Standards Committee

Number of Passes	2013	1508	664	332
	2012	1599	702	350
	2011	1570	632	279
	2010	1605	596	222
	2009	1704	662	289
	2008	1678	677	263
	2007	1605	603	161
	2006	1719	604	326
Pass rate	2013	85.7%	90.2%	70.2%
	2012	85.3%	92.8%	70.4%
	2011	85.5%	91.1%	68.6%
	2010	84.7%	91.4%	69.2%
	2009	84.3%	94.0%	67.8%
	2008	83.8%	92.4%	66.2%
	2007	87.4%	93.4%	64.1%
	2006	84.5%	96.6%	73%

The Foundation and Intermediate examinations were available at ‘short notice’ during 2013 and Advanced examinations were held at 7 set times to provide exams on every day of the week with weekend exams during the day and weekday exams in the evening.

The SC noted that following an increase in candidate numbers for examinations administered by the RSGB in 2012, the number of Foundation candidates in 2013 dropped by 6% to 1759. However, it was noted that 179 candidates took the ACO Foundation Equivalent Exam. The total number of candidates represents an overall reduction of only about 1% compared with comparable figures for 2012. Compared with 2012, there were reductions of 2.6% and 4.8% in candidates for Intermediate and Advanced exams, respectively, but the numbers are still higher than for the any of the years 2006 – 2011.

The EC has produced a detailed report on the results of the RCE in 2013, aimed at examination tutors and candidates. This will be available on the RCF website at <http://www.commsfoundation.org/rce/committees/index.html#ec> .

Pass Marks

There are no proposed changes to the pass marks set for all the examinations. Pass, Merit and Distinction grades at Advanced level have now been introduced.

6. Review of the Quality Manager’s Report

Dave Wilson, M00BW, took over the role of Quality Manager from Jeff Smith, M10AEX, on 1 May 2014. This appointment was in an interim capacity and the RCF will advertise the post later in 2014. The SC would like to record its thanks to Jeff Smith for his contributions over the past 5 years.

Examination Administration

Good liaison with the RSGB Examinations Supervisor has continued.

Conduct of Examinations and Inspections

Examinations are liable to routine unannounced inspections at any time, either from the Quality Manager and the team of inspectors or from Ofcom.

There were 43 unannounced inspections of examination venues during 2013. This represents only 4% of all examination sessions, compared to the aim of 10%. Ofcom also undertook 3 inspections during the year.

The QM intends to increase the rate of inspections in 2014. It is likely that further independent inspectors will be appointed and the RSBG Regional Managers and Deputy Regional Managers will also continue to undertake inspections on behalf of the RCF, under the direction of the QM.

The SC has asked the QM to provide feedback to examination centres following an inspection. This will identify those aspects of the inspection that went well, as well as any observations on areas for improvement if needed.

Examination Manual

The Examination Manual is close to completion. This will document all the procedures undertaken by RSBG HQ and the EC, in the administration of the RCE.

7. Review of the Report from RSBG HQ Examination Department

The overall demand for examinations fell by 5% in 2013. However, this did not result in a reduction of staff workload as there was an increase in telephone enquiries following the introduction of the new optical marking examination software. In addition, up to 10% of the optical marking sheets are currently rejected by the optical reader, requiring manual intervention.

Progress has been made on the Examination Handbook. Further work is needed to document procedures that are needed to respond to the needs of mature, dyslexic candidates (where statementing procedures have not been carried out).

Examination Software

The new EMAS software became operational in July 2013 and is now in use for all examinations. Further work is still needed on various features, such as the output of statistical analyses of results, and other minor requirements. This work is in hand but for these reasons the project has not yet been finally accepted from the developer.

8. Review of the Report from the Air Cadet Organisation

The ACO have now been running the ACO Foundation Equivalent Exams for 20 months. During this last 12 months there have been 19 courses run across the ACO, 11 at Regional Training Centres and 8 at Wing or Squadron level. Although Basic Communications is taught to all ACO Cadets on entry, and there is a Radio & Radar syllabus as part of the academic training, Radio Operating and further training is a voluntary extra part of the curriculum.

The take up of the courses was initially estimated at around 200 candidates per year based upon the average number of Communicator Awards issued for the last 3 years to cadets of the ACO. The Communicator award is based on a 6 module self-study or taught syllabus, one

module of which is a Foundation Equivalent Exam to try to tempt cadets to progress further into Amateur Radio. This year there have been 179 candidate examinations over 21 courses, with 134 passes giving a pass rate of 74.8%.

The Army Cadet Force (ACF) is now fully on board with the ACO in this venture. The ACO are providing the actual exam papers and the examinations are run under the same criteria as the ACO with disciplinary powers over their staff. Last year 4 courses were run accounting for a further 40 candidates with 30 passes (75.0%).

The ACO Radio Officer is also a member of the RCF Examination Committee. The ACO undertakes independent unannounced inspections of examinations and there has been liaison with Ofcom on aspects of licence conditions for cadets and training of radio instructors.

9. Complaints on Questions Received by the RCE Examination Committee

Fourteen questions were queried during the year. One showed a failure to read the question, three stemmed from believing a pedestrian was /P not /A, one suggested the change in the rules on supervision from BR68 to the lifetime licence had not been appreciated and another suggested the rules on licensing on becoming resident in another CEPT country were not understood. Two other queries not upheld indicated a failure to understand return loss and aspects of propagation. The inclusion of purple in a colour code question raised an eyebrow and has now been rectified, but a challenge that a circuit question was too complex was not supported. A faulty question that had been deleted in the old software seemed to have slipped through and was challenged by a competent candidate, who passed anyway. A question on the use of wood in an antenna caused confusion despite being specifically mentioned in the syllabus but the general view was that whilst legitimate the question did not really serve a useful purpose. Most interesting was a challenge that the Channel Islands were not part of the United Kingdom. Actually that is correct but the licence says they are so regarded for the purposes of the licence. It was an Advanced question so the candidate did have a full copy to refer to. Finally, the new system has allowed the use of photographs of components and one was challenged by a failing candidate as unclear. The view was the image quality was adequate to see that it was a transistor with three visible leads. However, a better, sharper, picture has since been substituted.

10. Examination Appeals or Irregularities

4 apparently credible allegations were received during the year; the first was that the club concerned were not carrying out the practical exercises; in the second, the allegation was that candidates were being helped during the examination; in the third it was alleged that a trainer was offering licences for cash; finally, an allegation was made that a club held an Advanced exam on an incorrect day. All these allegations were investigated by the EC and the QM and where they could be substantiated further action was taken.

Also in 2013 there were 11 irregularities that came to the attention of the EC and were investigated.

- A previously banned individual sought to set up a new club and register as an Assessor and a Centre. The continuing ban on such activities was confirmed.
- Marked exam papers were shown to parents of candidates, resulting in unhelpful and inappropriate challenges to questions; the questions were confirmed to be satisfactory.
- Two candidates shared an unauthorised reader who also doubled as an invigilator; the papers were disallowed.

- Only one Invigilator was in attendance and an examination question paper was not returned. The club claimed misunderstandings; there was no evidence of dishonesty and a formal warning was given. The paper was subsequently recovered.
- A tip off prompted the discovery of almost identical answers. Investigation showed that fewer questions were identical than claimed and many of the wrong answers were in fact the favourite wrong answers. No further action was taken.
- A candidate failed but was told by his club it was a pity they were inspected by Ofcom and they would help him next time. It also turned out a reader was licensed albeit some while previously and had not continued the hobby. Ofcom followed this up with a visit to offer words of advice.
- An exam was an administrative muddle with papers and OMS given to and used by the wrong candidates. Initially it also appeared that attempts to recover the situation may have resulted in candidates seeing the papers of others. The exam was initially invalidated but an appeal was upheld. A much more detailed investigation showed the results could be relied on but the club was required in future to have an external invigilator to oversee, help and advise.
- Following the allegation, noted above, that examinations had been held on the wrong day, an inspection was arranged on the due day, only to find the exam hall in use by others. However, the papers were returned indicating the exam was correctly held. In fact the Advanced exam had been held two days earlier. The club claimed not to realise it was a national exam at a set time and stated in writing that earlier exams had been held as specified. However, inspection of the exam hall booking records showed that this statement could not be supported. The registration of the club and officers has been withdrawn.
- An OMS was not completed as intended. This appeared to be due to either poor briefing or an inattentive candidate and poor supervision.
- Two candidates had changed their inked answers on the OMS and indicated which was intended. The club confirmed the situation. The double answer was marked wrong. One of the two candidates failed.
- Either a transfer error or a change of mind at checking time resulted in a difference between the question papers and the OMS. For some reason the club marked the question paper rather than the OMS and gave the candidate an indicative pass when he had in fact failed.

It should be noted that the EC had to spend a considerable amount of time on these irregularities. The EC is considering ways in which the control of examinations can be better supervised and made more secure. Discussions are in hand with the RSGB to increase the involvement of RMs and DRMs in advising and helping examination centres in their preparations.

New procedures for handling irregularities and appeals are currently drafted by the SC and will be published later in 2014.

11. Recommendations

The RCE Standards Committee made the following main recommendations for action during 2014:

- Renewed effort should be put into recruiting independent examination inspectors and examination committee members.

RCF Standards Committee

- The outstanding deliverables in the examination system software should be completed as soon as possible.
- The EC should continue the review of all three Syllabuses and seek advice as appropriate from the TEC and other RSGB committees.
- The EC should undertake a longer term project to look at the feasibility of on-line examinations and the ability to provide a cost effective but secure on-line environment.

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