

## Report

### **The Annual Report of the RSGB Examination Standards Committee**

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**September 2020**

This report covers the calendar year 2019. The ESC meeting scheduled to take place in late March 2020 was postponed due to the Covid-19 lockdown. A majority of the Committee members expressed a preference for an in-person meeting as soon as it could be arranged. However, when it became clear that it would not be possible to organise an in-person meeting during 2020, the Committee met online on the 25<sup>th</sup> July 2020. The meeting was focussed on the review of the reports from the various officers and sub-groups. On the basis of the reports received, the Committee reached the decision that as at 31 December 2019, the Amateur Radio Examinations are fit for purpose for the issue of UK amateur radio licences.

In 2019 the RSGB Examinations Department and the Examinations Group, overseen by the Examinations Standards Committee have continued their main task of operating the amateur radio examinations process. The total enrolment on all examinations was just under 9% higher than in 2018 and the pass rate was slightly down compared to 2018. September 2019 saw the adoption of the new syllabus across all levels. This has inevitably affected the exam figures and so direct comparisons with previous years should be treated with caution

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## 1. Introduction

The role of the RSGB Examination Standards Committee (ESC) is to ensure the examinations system is fit for purpose so that licensed radio amateurs can enjoy their hobby legally and safely, without causing interference to the public, and be good citizens on-air. In addition, that they understand how to get the best out of the hobby at whatever level they chose to operate, and that they have enough knowledge and understanding to progress to higher levels if they wish. The ESC assesses the quality of the examinations and makes sure that it is uniform across the United Kingdom so that everyone reaches the same level of attainment. The ESC also ensures that Full level is broadly aligned with HAREC so that UK amateurs can continue to benefit from reciprocal licensing arrangements.

The annual reports of the Examination Standards Committee are published on the RSGB website, <http://rsgb.org/main/about-us/committees/examination-standards-committee/>. Other relevant documents are also available on this website, including the terms of reference of the Examination Standards Committee and the agreement between Ofcom and the RSGB.

The data and analysis presented report covers the examination period 1 January to 31 December 2019 and was considered at the July 2020 meeting of the ESC.

## 2. Membership of ESC

The terms of reference and constitution of the committee are set down in the Schedule of Terms between Ofcom and RSGB. The membership of the Examination Standards Committee at the time of writing this report is as follows:

Prof. Tony Kent, G8PBH, Chairman  
Paul Chapman, Ofcom  
Dr. Donard de Cogan, M0KRK, Examinations & Syllabus Review Group, Acting Chairman  
Dave Wilson, M0OBW, Examinations Quality Manager & Board Liaison  
Nigel Barker, M0HZR, Examinations Standards Manager  
Dave Taylor, Wg Cdr Rtd, M0NAV, Air Cadet Organisation  
Derek Hughes, G7LFC, Train the Trainers  
Steve Thomas, M1ACB, RSGB General Manager, Exam Dept representative  
Mike Bruce, M0ITI, Examinations Systems Review Manager  
Prof. Hugh Griffiths, G4CNV, University College London  
Dr Julian Gannaway, G3YGF, Roke Manor Research Ltd  
Murray Niman, G6JYB, BAE Systems AI-Labs

During 2019, Prof Peter Richmond, M0HBL, stood down as Chair of the Examinations and Syllabus Review Group (ESRG). We would like to thank Peter for his work on the ESRG and the ESC.

Shortly before the July meeting, Mike Bruce, M0ITI, stood down from the RSGB Board. We would like to thank Mike for acting as the Board Liaison Member (BLM) in 2019. Dave Wilson, M0OBW, took the role of acting BLM for the meeting.

### 3. Assessment of Overall Examination Performance

The committee received reports from the Examinations and Syllabus Review Group (ESRG), the Examination Quality Assurance Manager and Examination Standards Manager (EQAM&ESM), the RSGB Examination Department (ED) and the Air Cadet Organisation (ACO), on the management and performance of the examination processes. Their reports are summarised in the sections below.

The Examination Standards Committee is satisfied that the Foundation, Intermediate and Full examination syllabuses effective in 2019 were/are suitable for the award of Amateur Radio licenses. Further, the examinations are compatible with the CEPT harmonised arrangements set out in Recommendations T/R 61-01 and T/R 61-02. The committee will continue to review the syllabuses and examinations to ensure compatibility with international and national requirements.

### 4. Review of the Report from RSGB HQ Examination Department (ED)

#### 4.1 The year in retrospect

Total number of exams administered by the RSGB Examinations Department in 2019 increased by 8.76% compared to the previous year.

Published timescales for providing papers and results were maintained.

Generally, the uptake of online exams has risen. There was a gradual increase from January to September, but the last four months were more variable, going from 66 in September, 37 in October, 114 in November & 45 in December.

A total of 164 registered Assessor applications were processed (down from 181 in 2017)

No International Amateur Radio Exams were administered (down from 2 in 2017)

#### 4.2 Exam statistics

Overall, there were total of 246 more candidates across all exam levels last year. 77 more at Foundation, 3 more at Intermediate and 166 more at Full level. The pass rate decreased at all levels, with a total of 2416 successful candidates, see Table 1.

Level	2019			2018		2017	
	Candidates vs 2018	Candidates	Pass Rate	Candidates	Pass Rate	Candidates	Pass Rate
Foundation	+4.85%	1665	83%	1588	86%	1607	82%
Intermediate	+0.4%	749	91%	746	93%	646	92%
Advanced	+35.02%	640	54%	474	61%	385	65%
Total		3054		2808		2638	

*Table 1 Numbers of candidates registered for the exams at each level for 2019 compared with previous two years. Here the calculation of the pass rate is made without excluding the 'no-show' candidates. (Note: Advanced is referred to Full elsewhere in this document)*

Although the uptake for the Full exam has been exceptional during 2019, it is thought that the introduction of the new syllabus is responsible. Candidates possibly attempted the exam early before the changes were put in place, and as a result, that may explain the substantial drop in the pass rate.

It was reported that 116 candidates passed the Air Cadet exam, with 76 requesting a candidate number from the RSGB for Foundation equivalence. Those figures are included in the statistics.

### 4.3 Trends

Although the trend for the total number of exams observed across the previous 10 years has decreased slowly, both 2018 & 2019 have seen an increase, Figure 1(a). All levels of exams saw a significant rise prior to the introduction of the new syllabus in September with a record 640 attempting the Full exam during 2019.

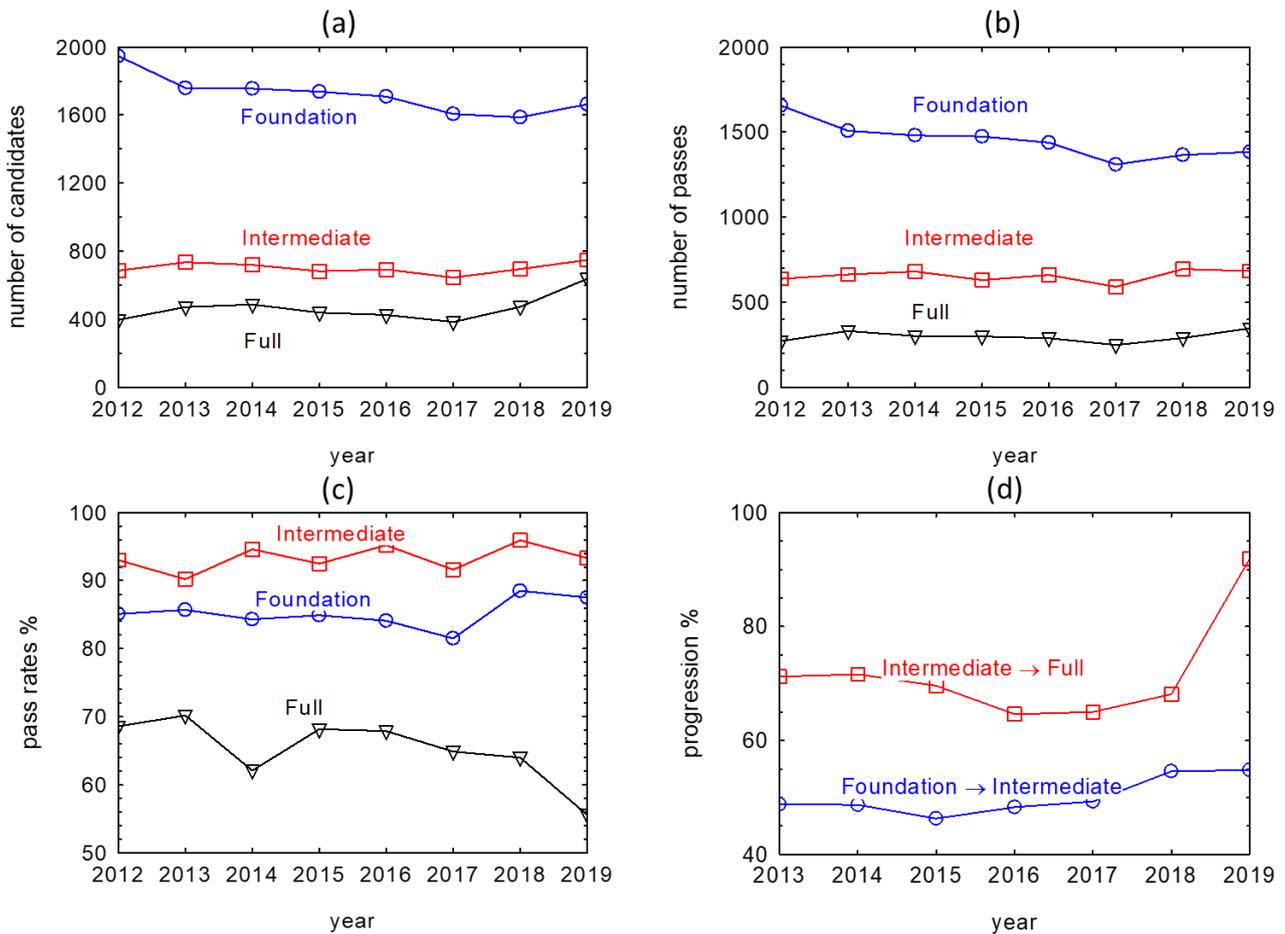


Figure 1 Exam statistics for past 7 years including the latest data from calendar year 2019 (the data presented for 2012 is the average of the 5 years to 2012): (a) numbers of registered candidates at the three levels; (b) numbers of passes at the three levels; (c) pass rates, not counting registered candidates that didn't attend the exam; (d) progression rates, using data for the lower level from 2018.

Numbers of passes and pass rates are shown in Figure 1(b) and (c), respectively. The data for pass rates excludes candidates that enrolled but did not sit the exam. The progression rates shown in Figure 1(d), calculated as the ratio of the number of passes at the higher level to the number of

passes at the lower level in the previous year (it is understood that some candidates pass both levels in the same year, but it is difficult to keep track of individual candidates, and the method used still provides a useful indication of progression), both show an increase over the past three years. The sharp increase in progression to Full, despite the reduced pass rate, was due to the record numbers of candidates attempting the Full exam in 2019.

Apart from resitting candidates, the exams taken between 1<sup>st</sup> September and 31 December were taken under the new syllabus. The data for just the new syllabus exams are: at Foundation 114 exams, 330 candidates and 255 passes; at Intermediate 36 exams, 66 candidates and 51 passes; and at Full 32 exams, 69 candidates and 37 passes.

The early indication is that the pass rate at Foundation (86%, excluding absentees) is about the same as under the old syllabus. Therefore, as was intended in the review, the new syllabus does not appear to have raised the entry bar. Furthermore, although there was a sharp drop in the number of candidates taking the Foundation exam in September and October, in November and December the monthly numbers were starting to recover towards those under the old syllabus. Since August, the number of candidates taking Intermediate and Full exams has remained well below the numbers in the same months of 2018. That the overall number of candidates taking these levels in 2019 is like the previous years, suggests candidates who had already started training under the old syllabus sought to get the exam in before September. It is likely to be well into 2020 before enough data will become available for the ESC to review the full impact of the syllabus change on pass rates at all levels.

## **5. Review of the Report from the Examinations and Syllabus Review Group Chair**

The former Examinations Group (EG) had completed its work during summer 2019 with the move to the implementation phase of the revised syllabi. Upon the resignation of Prof Peter Richmond, Dr Donard DeCogan took the Chair of the newly formed Examinations and Syllabus Review Group (ESRG) on an acting basis, while the Examinations Systems Review manager (ESRM), Mike Bruce, assumed a major role in managing the implementation phase and ensuring the new syllabus was adopted at the target date of 1 September 2019.

In spite of a significant amount of consultation before the new syllabi were cast in stone it would appear that it took some time before tutors became aware of the breadth of the changes. As a result, much of the ESRG's time during 2019 has been taken up with reacting to issues raised by tutors and other parties. The nature of the changes between the three levels has meant that there has been much moving of material and the ESRG accepted that there were some errors and omissions, which it endeavoured to amend as soon as it was made aware of them. The status of the examination question banks is constantly under review and, in some cases, changes had to be made as a result of external factors, such as reviews of EMF safety by Ofcom or the impact of the IET 18th Wiring Regulations. In all of this the group gratefully acknowledges the input of Alan Betts.

The ESRG has also introduced operational changes: Instead of two-day meetings several times per year, as was the norm with EG, the group has six one-day meetings which operate extremely efficiently. All matters to be discussed at the meeting must be notified to the Chairman in advance; they do not take AOB. The minutes are recorded as the meeting progresses and are agreed as

accurate by all present before the meeting is closed. As a result of these innovations meetings are fast, efficient and focussed.

Apart from the meetings a large part of ESRG's time is taken up with considering challenges. Since the establishment of ESRG, it has dealt with about 18 challenges. These are debated by members of the Group via email. The Group introduced a policy that a challenge is only declined if all ESRG members who participate in the discussion are in agreement that it should be declined. Otherwise it is upheld. The Chair writes personally to all who make a challenge, explaining the basis for the decision and so far, and this has been well received.

## 6 Review of the Report from the Examination Quality Assurance Manager (EQAM) & Examinations Standards Manager (ESM)

### 6.1 Exam centres and age and gender statistics

Table 2 shows the breakdown of candidate numbers by region and gender (data does not count the candidates that were registered but didn't attend the exam).

The number of exam centres continues to increase, 618 in 2019 (598 2018) as does venues, 978 in 2019 (948 2018).

There's a generally a good spread of candidates across the country, geography probably plays a large part in regions 1, 2, 6 & 8 having fewer candidates compared to the other 9 regions.

Amateur radio is a technical hobby and so closely related to STEM disciplines. The Government has the aim of increasing the participation of women in STEM, and OFCOM, through their representation on the ESC, asked the ESC to monitor the proportion of women taking up amateur radio. This is shown in the final column of Table 2. The % female to male is up slightly on 2018 but remains at just under 10% (9.0% 2018).

	Month	No of Centres	No of Candidates			Gender	
			Foundation	Intermediate	Advanced	Male	Female
<b>Region 1</b>	UNIQUE CTRS	15	74	32	49	141	14
<b>Region 2</b>	UNIQUE CTRS	8	37	19	9	64	1
<b>Region 3</b>	UNIQUE CTRS	30	176	90	88	326	28
<b>Region 4</b>	UNIQUE CTRS	33	147	95	58	276	24
<b>Region 5</b>	UNIQUE CTRS	20	134	53	39	205	21
<b>Region 6</b>	UNIQUE CTRS	4	16	8	5	27	2
<b>Region 7</b>	UNIQUE CTRS	21	155	43	27	198	27
<b>Region 8</b>	UNIQUE CTRS	7	42	21	9	63	9
<b>Region 9</b>	UNIQUE CTRS	21	216	56	55	294	33
<b>Region 10</b>	UNIQUE CTRS	34	215	110	105	398	32
<b>Region 11</b>	UNIQUE CTRS	25	162	60	84	280	26
<b>Region 12</b>	UNIQUE CTRS	22	160	84	87	299	32
<b>Region 13</b>	UNIQUE CTRS	21	120	88	45	224	29
	<b>TOTALS</b>	<b>261</b>	<b>1654</b>	<b>759</b>	<b>660</b>	<b>2795</b>	<b>278</b>
ATC			86			70	16

Table 2 Exam statistics by Region

The age statistics are shown in Table 3. The 40 – 69 age range accounted for just over 60% (65% 2018) of candidates taking the exams. The number of youngsters (<20 yo) taking the exams, 400, rose in 2019 compared to 2018 (255). It is interesting to note that 27% of the female

2018			2019					
Age			Age	Total	Male	Female		
0-9	2	0.1%	0-9	10	0.3%	6	0.2%	
10-14	121	4.3%	10-14	144	4.6%	109	3.8%	
15-19	132	4.7%	15-19	246	7.8%	206	7.2%	
		9.1%			12.7%		11%	
20-29	217	7.8%	20-29	264	8.4%	236	8%	
30-39	340	12.2%	30-39	384	12.2%	347	12%	
40-49	580	20.7%	40-49	580	18.4%	523	18%	
50-59	733	26.2%	50-59	885	28.0%	823	29%	
60-69	501	17.9%	60-69	474	15.0%	450	16%	
70-79	157	5.6%	70-79	160	5.1%	154	5%	
80+	14	0.5%	80+	10	0.3%	10	0%	
	2797			3157		2864	293	
Foundation	1577		Foundation	1741				
Intermediate	745		Intermediate	759				
Full	475		Full	660				

Table 3 Age statistics for 2019, 2018 data shown for comparison.

candidates are in the younger age group, compared to just 11% of the male candidates. This could be due to the work being done in schools and the media to enthuse girls in STEM subjects.

## 6.2 Challenges & Appeals

The total number of challenges handled by ESRG was 18 and there was one appeal.

A particularly notorious challenge leading to the one appeal was related to an exam that took place in April 2019 and wasn't resolved until around September time with the candidate becoming aggressive and derogatory towards those involved in the challenge and appeal processes. As a consequence of this the processes regarding the handling of challenges and appeals were modified such that rather than the response to the challenger or appellant going from HQ staff it will now go directly from the Chair of the ESRG.

## 6.3 Inspections

Inspections during 2019 were on a par with 2018 – still below the target of 10%. Intelligence received into HQ and by word of mouth continue to be main drivers for inspections. There are still a handful of clubs where there are concerns and those continue to be closely monitored. Other than minor indiscretions eg no "Exam in Progress" notices on doors, no clock visible to candidates, no "Start" "Half Way" "Finish" times visible to candidates, there was nothing significant to report.

## 6.4 Online Examinations

Table 4 shows that the take-up of Online exams has improved significantly. Looking at the Full exam for 2018 – the pass rate for those taking the Online exam was 69%, whilst for paper it was 64%, which is probably not a significant difference.

In 2020, as in 2019, we will carry on encouraging clubs to

	2018				2019			
	Foundation	Intermediate	Full	TOTALS	Foundation	Intermediate	Full	TOTALS
January	11	0	6	17	24	2	15	41
February	14	14	13	41	23	14	9	46
March	23	4	6	33	52	38	20	110
April	16	3	2	21	25	20	9	54
May	16	9	0	25	51	20	13	84
June	15	6	11	32	33	24	34	91
July	11	0	23	34	39	36	47	122
August	10	8	14	32	31	28	52	111
September	32	5	3	40	49	0	18	67
October	13	14	3	30	15	5	19	39
November	14	16	5	35	104	8	21	133
December	22	5	38	65	23	9	13	45

Table 4 Numbers of online exams

take up online exams, ie. simply replacing the question paper and OMS with a computer – emphasising the benefits for both candidate, invigilators and Exam Secretaries. We will also offer candidates exams via Remote Invigilation, which, as well as being a convenient option for some candidates, reduces the load and responsibility on clubs when it comes to hosting exams.

## **7. Review of the Report from the ACO Foundation**

### **7.1 General**

1. As per previous years Staff workload issues at cadet units continue to reduce the number of Squadron Instructor led courses available for eligible cadets to take the Foundation exam.
2. Following a review of the RACAC Communicator Syllabus in early 2019 it has been decided for an evaluation period the Advanced Radio Operator and Foundation Courses will be integrated and delivered by Wing and Regional Radio Training Teams. This has proved to be a great success and increased numbers for the Cadet Foundation Exam

### **7.2 2019 Results**

- 150 Cadets and Staff initially registered for the exam.

However due to course cancellations 130 candidates sat the exam:

- 126 Cadets and 4 staff took the exam.
- 105 candidates passed first time pass rate. (80.7%)
- This rose to 115 after retakes. (82%)
- 15 complete fails of which all resat but failed a second time.
- 2 courses were cancelled - 1 due to instructor availability and 1 due to location problems on the weekend in question.
- Poor teaching / understanding of the Licence Conditions are still the main cause of failure.

1. Overall the average pass mark was 84.41%, Licensing conditions still being the prime source of failed questions.

2. The issue of under qualified tutors will be resolved by delivering the integrated Advanced Radio Operator and Foundation License course at Wing and Regional level. However, 'qualified' RAFAC radio instructors will be permitted to deliver independent Foundation courses at Squadron level.

3. The operating ability of the cadets was noticed during practical sessions, where the ease of use and cadet confidence was frequently remarked upon. This included mixed amateur/cadet contacts on 5MHz where comments were nothing but favourable.

### 7.3 Inspections & Irregularities

No Irregularities have been reported, 3 exams were moderated.

## 8. Conclusions

Due to the efforts of RSGB Tutors, RAFAC Trainers, Club Exam Secretaries, the RSGB Examinations Department and the Examinations Group, 1384 candidates demonstrated that they had achieved the standard for a Foundation license in 2019. The number of candidates successfully progressing all the way to meet the standards for a Full license in 2019 was 348.

Overall standards were maintained in 2019 and the amateur radio examinations continue to be fit for purpose.

The new examination syllabus came into effect on 1 September 2019. While this resulted in an initial sharp fall in the number of candidates, the number of candidates per month at Foundation level recovered by the end of the year and the pass rate was in line with previous years. The total number of candidates at each of Intermediate and Full, were insufficient to reach any conclusion about the effect of the new syllabus on pass and progression rates. This will be reviewed in the light of the 2020 results.