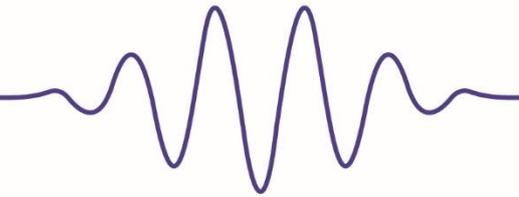




Radio Society of Great Britain

Advancing amateur radio since 1913



ANNUAL REPORT OF  
THE RADIO  
COMMUNICATION  
EXAMINATION  
STANDARDS  
COMMITTEE, MAY 2017

# The Annual Report of the RSGB Examination Standards Committee

May 2017

## 1. Introduction

RSGB Examination Standards Committee (ESC) was set up under the terms of the Schedule of Terms between Ofcom and the RSGB to run the Radio Communications Examinations (RCE). The work of this committee follows on directly from the work of the RCF Standards Committee, following transfer of responsibility for the RCE from the RCF to RSGB on 1<sup>st</sup> October 2015.

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 documents relevant to the RCE are also available on this website, including the terms of reference of the Examination Standards Committee and the agreement between Ofcom and the RSGB.

## 2. Membership

The membership of the Examination Standards Committee is as follows:

### Committee Members

Post Vacant, Paul Jarvis, G8RMM	Chairman Head of Systems, Baldock Radio Station, Ofcom
Alan Betts, G0HIQ & G8TKV	Chairman of Examination Group and Chief Examiner
Dave Wilson, M0OBW	Examination Quality Assurance Manager
Post Vacant	Examination Standards Manager
Sq'n Ld'r David Pink, G6EGO & M0ZTT	Air Cadet Radio Officer
Prof. Philip Willis, M0PHI	TEC Chairman
Steve Thomas (RSGB GM), M0ACB	Examination Dep't representative

### RSGB Board Liaison

Ian Shepherd, G4EVK

### Examination Audit Committee members

Prof. Hugh Griffiths, G4CNV	Department of Electronic & Electrical Engineering, UCL
Dr Julian Gannaway, G3YGF	Roke Manor Research Ltd
Murray Niman, G6JYB	BAE Systems Applied Intelligence, UK

The terms of reference and constitution of the committee are set down in the Schedule of Terms between Ofcom and RSGB. The RSGB Board Liaison member and the

Examination Audit Committee members attend and contribute to all meetings but are formally non-voting members' Assessment of Overall Examination Performance. The committee received detailed reports from the Examination Group (EG), the Examination Quality Assurance Manager (EQAM), the Examination Standards Manager (ESM), the Examination Department (ED) and the Air Cadet Organisation (ACO), on the management and performance of the examination processes. Their reports are summarised below.

The Examination 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.

### **3. Review of the Report from the Examination Group Chairman**

#### **Syllabus Revisions**

The EG continues to work with the RSGB TEC on a review of all three examinations syllabuses. One of the aims of this review, apart from ensuring the syllabuses appropriately represent modern amateur radio technology and requirements, is to make the steps between the three levels more of a gradual progression. Another aim is to encourage the progression from Foundation, through Intermediate, to Advanced level. The drafting phase is nearing completion and a consultation with interested parties is expected to commence in May 2017.

#### **Membership**

Three new members of the EG joined during 2016. Sadly the group lost Dave Powis, SK. Dave had been instrumental; in driving forward the syllabus review and other developments.

The EQAM and ESM continued to support the work of the EG throughout the year.

#### **Question Banks**

The Foundation and Intermediate banks meet their specifications although five more questions at Foundation and one at Intermediate would allow a question to be removed without dropping below specification.

The shortfall at Advanced was reduced to seven last year. The advent of on-demand exams indicates an increase in bank size from 15 items per question on the paper to 20. Some sections do meet that but another 144 items are needed to fully meet the specification. That increases to 237 for all sections to be proof against the loss of a question without immediately falling below spec.

#### **Results for 2016**

The table below shows the number of examinations held and the overall results for 2016 with earlier years for comparison. The 2006 – 2012 figures are an average. The

number of candidates is shown as enrolments minus absentees. The pass rate from 2014 onwards is based on the actual number sitting the exams, not enrolling for them.

		<b>Foundation</b>	<b>Intermediate</b>	<b>Advanced</b>
<b>Number of Examination sessions</b>	2016	597	267	167
	2015	638	263	189
	2014	591	268	195
	2013	594	274	183
	2006-2012	615	242	149
<b>Number of Candidates</b>	2016	1774 – 65	710 – 16	439 – 12
	2015	1806 – 68	707 – 24	456 – 16
	2014	1818 – 62	730 – 9	513 – 25
	2013	1759	736	473
	2006-2012	1947	687	398
<b>Number of Passes</b>	2016	1438	661	290
	2015	1475	632	300
	2014	1481	682	303
	2013	1508	664	332
	2006-2012	1656	639	273
<b>Pass rate %</b>	2016	84.1	95.2	67.9
	2015	84.9	92.5	68.2
	2014	84.3	94.6	62.1
	2013	85.7	90.2	70.2
	2006-2012	85.0	93.0	68.6

2016 saw a 6.4% drop in the number of Foundation exams held and a 1.8% drop in the number of candidates. The pass rate remains reasonably consistent at around 84%. 48% of successful candidates progressed to Intermediate. There is room here for an improvement and clubs might benefit from assistance from the Society.

The number of Intermediate exam sessions shows a modest 1% increase as did the number of candidates. The pass rate at Intermediate remains high. The average number of candidates per exam was 2.67. Given the effort required to run courses this is very inefficient and clubs are to be commended for running them under these circumstances.

Progression to Advanced is stable around the 70% mark suggesting that many candidates, having chosen to progress from Foundation, wish to go all the way. Anecdotally the biggest impediment seems to be the availability of Advanced

courses. Effort to encourage and importantly assist clubs to provide Advanced training may be required. Some clubs note that many members have simply passed themselves and lack confidence to teach at that level. Others observe that it is quite a lengthy commitment.

## Pass Marks

There are no proposed changes to the pass marks set for all the examinations. It was agreed that the boundaries between distinction, merit and pass should also remain unchanged.

## Feedback for Advanced Candidates

The EG had previously agreed to provide feedback to candidates on Advanced exam results and this was provided to those candidates that requested it during this last year. This has been quite an administrative load but has been welcomed by the candidates.

The EG does not have authority for Special Consideration (post-exam adjustments) since resits are readily available.

## Complaints on Questions Received by the Examination Group

15 Foundation questions were queried, eight were correct, five were edited for clarity and two were invalidated resulting in two passes.

21 Intermediate questions were queried of which 15 were correct. Five were edited for clarity or correct misprinting symbols. One was invalidated but did not affect exam results.

16 Advanced questions were challenged, three before the paper was issued where one was scrapped and the other two edited. Of the remainder 12 were edited and one deleted.

## Practical Assessments

The EG updated the requirements for Practical Assessments giving more guidance on the various items and relaxing the need for the Morse assessor to hold formal qualifications. It is now for the registered assessor to appoint a person he considered competent, the same as for the other assessment items.

# **4. Review of the Report from the Examination Quality Assurance Manager (EQAM) & Examinations Standards Manager**

The recruitment for a replacement ESM has, so far, proved difficult. Ian Shepherd G4EVK (now BLM for Examinations) has continued in the role as far as time allows, sharing duties with the EQAM. In recognition of this arrangement the two reports are combined.

**Conduct of Examinations - EX 500** has been edited and incorporates changes agreed within the Examinations Group following organisational changes and policy updates. In view of the known impact of planned online examinations necessitating further changes to procedures it was decided to publish online and discontinue the printed version. This decision to be reviewed in 12 months

The “**Handling of Irregularities**” document has been edited and published. This document, in common with EX500, is now published online on the RSGB website.

**Further development of EMAS** has been halted. A meeting with the developer confirmed our plans in late 2016. A maintenance contract to at least the end of 2017 has been agreed. Mechanisms to extract candidate, centre and the question bank data for external selection and editing has been developed and tested. A master encrypted copy of the question bank is held securely and is regularly updated.

A full feedback matrix at Advanced level was made available by Dave Powis (EG) This has been edited for general use and was trialled for results from the December 2015 Examination. Over 30 candidates received feedback in the new, more detailed, format. Feedback is manually generated via access to EMAS and was completed by the EG Chair and ESM. The feedback was widely welcomed by both candidates and tutors. The EQAM has continued to provide this feedback service for later Advanced Examinations and has additionally produced statistics for all Advanced Examinations. Each feedback document requires approximately 5 minutes effort to manually prepare.

*Note:* The new online examination system, now in pilot phase automatically produces similar feedback upon completion of the examination.

**Changes to the EG** resulted in the ESM assisting in the administration of candidates with “special needs”. Approximately 10 candidates requiring special dispensation or additional facilities were administered in the last 4 months. A matrix of possible variations to standard examination procedures linked to common disabilities was prepared, but found of little value. Experience shows that each case is unique and that a macro approach will simply not necessarily provide the appropriate support to the candidate. A discussion with the candidate or their HC professional or carer is often required. Any guidance in this area should be commensurate with wider RSGB policy and meeting of stakeholders is required to reach consensus of approach. The “approved” reader list continues to grow and there are now 30 readers who have undertaken and satisfied the standard to be appointed a reader at any examination. Most of those on the list are prepared to travel reasonable distances. It is hope that more volunteers will continue to come forward and seek the necessary understanding and approval to be added to the list.

Following the dilution of the EG membership, the ESM and EQAM joined the EG in a series of planning meetings (in addition to the regular EG meetings) to assist and support the continuing EG work. The ESC Chair agreed to a six-month period of joint working to establish a firm basis for future work. The 6-month period expired in April 2016 but this manner of working continued throughout 2016. The EG does require permanent secretarial support due to the nature Of its work.

**Issues of child / vulnerable adult protection** have arisen during the year. At present only a few examination officers (only assessors have ever been CRB / DBS checked and registered) have been screened and most of those are now significantly out of date. It is strongly advised that urgent and serious discussion is held to consider possible risk to the RSGB in regard of examination staff. Particularly invigilators and tutors require the confidence that they are protected by robust policies and support should any issues arise.

**Two formal challenges** to questions were made in 2016 (and early 2017) which resulted in appeals. These involved two independent adjudicators who kindly offered their services. In the first case the appeal was upheld and the question edited – in the second the appeal was rejected but there followed a further appeal to the adjudicator's decision. There is no procedure beyond the independent decision The ESC confirmed that the current procedure should remain with the final stage being the independent review of any appeal to a challenge.

**TestReach** presented to the RSGB Board in May 2016 and approval was granted for the go ahead of a project to investigate the introduction of Online Amateur Radio exams. A Proof of Concept trial of Online Foundation exams took place over a 2-month period using several radio clubs and other trusted partners (ie RSGB staff and EG members). The feedback from that PoC was positive so it was decided to go ahead with the next phase which was a Pilot Phase.

The Pilot Phase is based around the Advanced exam – essentially because the number of exam sessions on a day to day basis is manageable. Announcements were made and the Pilot Phase went live as of 20th February 2017 with Online exams available from 20th March through to end of June 2017.

The first 2 exams took place on 23rd and 25th March – feedback from both candidates (9 in total) and Exam Secs and Invigilators is extremely positive.

The take up of Online exams hasn't been as enthusiastic as we might have liked so with that in mind a demonstration session is being planned for the AGM on 22nd April. The idea is that using cut down versions of the sample papers on the RSGB web site those attending the AGM will be invited to try out the Online process for themselves. This together with a short article in RadCom should hopefully encourage clubs to have a go. At the end of the Pilot Phase a report will be issued with recommendations as to the next step.

**Unannounced inspections** continue – many are based on intelligence from “interested parties”. As previously there are no significant cases where due to lack of adherence to EX500 procedures etc an exam session has had to be voided. The total number of inspections carried out is still short of the 10% target.

Typical misdemeanours include :-

- People, other than those listed on the official paperwork being in the room either during the exam or when marking is taking place
- CPAR's not available at exam session
- Lack of attention to detail

During the year there were a couple of instances of candidates being advised via the Feedback Reports that their indicative mark was enough for a pass whereas when the OMS was scanned at HQ the results were below the pass mark. One instance in particular was particularly disappointing since the club in question had just had their suspension for a previous error lifted.

Probably the most serious issue this year, which wasn't found during an inspection, revolved around an old exam paper (Foundation level – dated 2014) turning up in an exams return envelope. The EQAM and the ESM visited the club in question to find out what had gone on and what was going on. The explanations weren't altogether satisfactory but words of advice were given. The situation today is that the club has just run its first exam since this issue and have another scheduled for early April. The EQAM

† had intended to do an unannounced inspection at that first exam but due to short notice it wasn't actually possible but a visit is planned for the next exam.

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

### The year in retrospect

Total demand for exams in 2016 showed an increase compared with 2015, but pass rates have reduced, resulting in fewer successful candidates despite the increase in candidates. The introduction of Advanced exams on demand has helped to smooth the demand and reduce the peaks in workload, but Aug-Sept remain low points with Oct-Dec being high points. Published timescales for providing papers and results were maintained.

### Statistics

Overall, we had a total 62 more candidates across all exam levels last year, 36 more in Foundation and 27 more in Intermediate, with Advanced holding steady with only 1 fewer. The pass rate was down in both Foundation and Advanced, with a small increase for Intermediate.

Level	2016		2015		2014	
	Candidates	Pass Rate	Candidates	Pass Rate	Candidates	Pass Rate
Foundation	1774	81%	1738	84%	1731	81%
Intermediate	710	93%	683	92%	719	93%
Advanced	439	66%	440	68%	522	58%
Total	2923		2861		2972	

Historical trend charts are included below.

### Trends

Over the last nine years, the total number of candidates for all levels of the examinations has remained largely unchanged, as has pass rate, although the trend is slightly downwards.

The following trends are indicated at the separate exam levels :

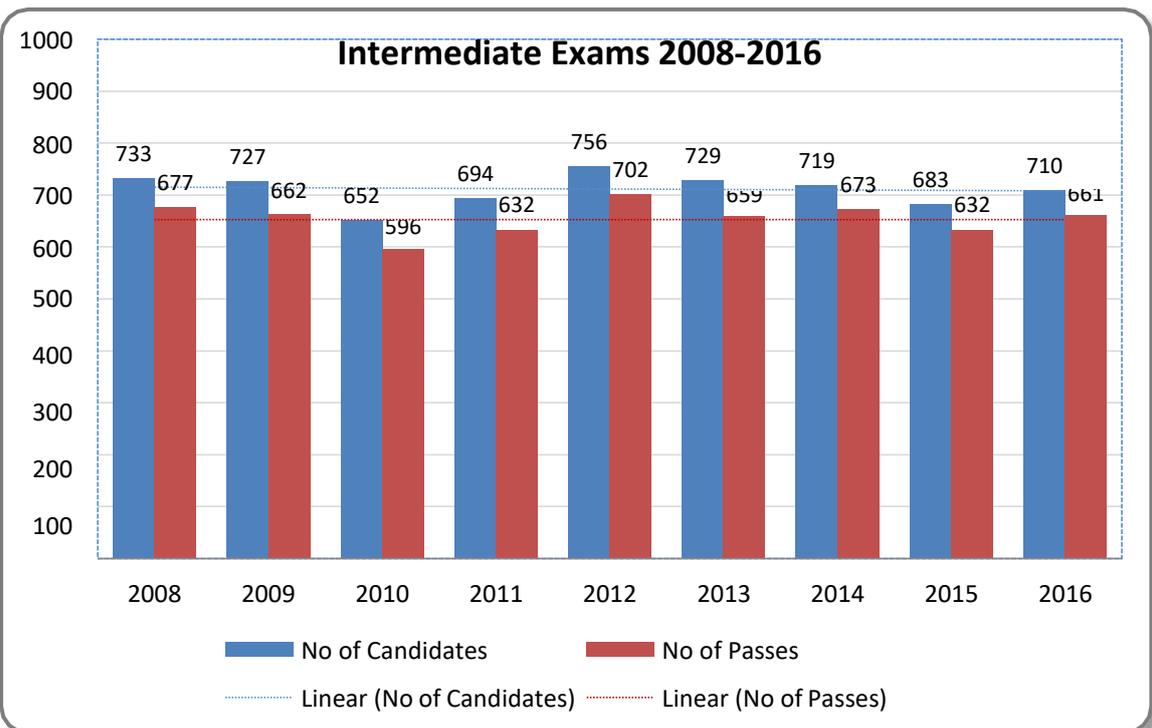
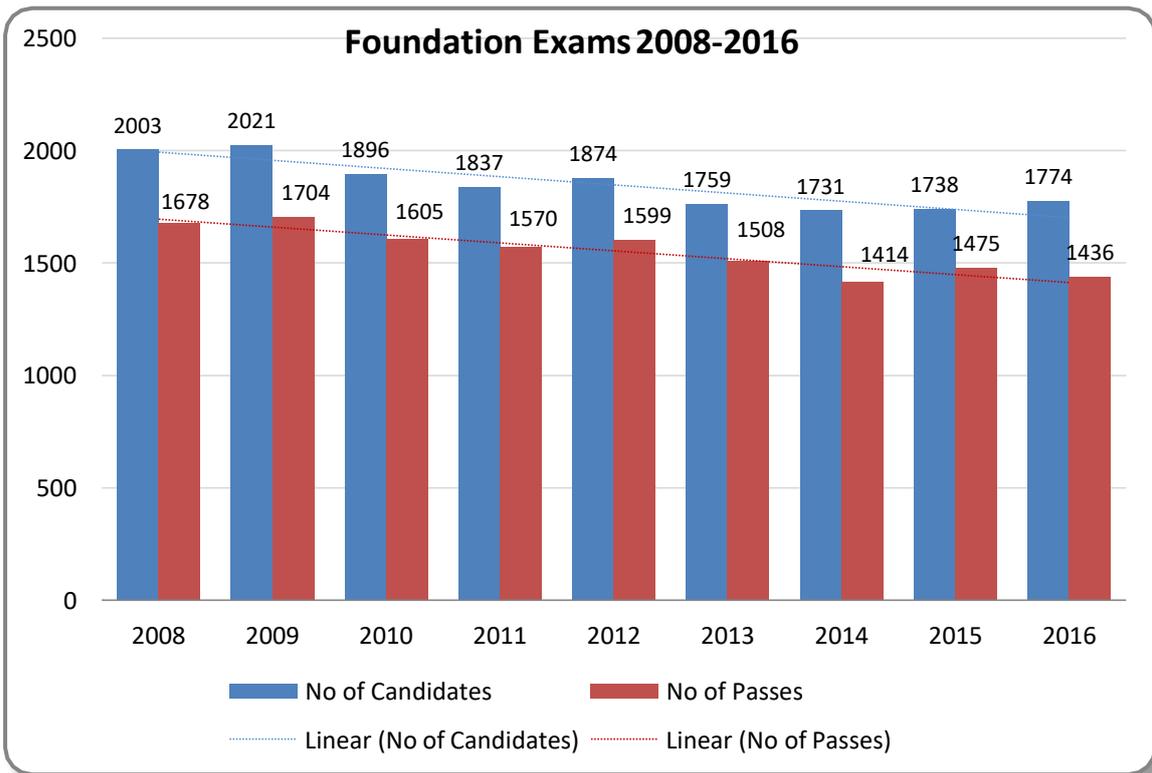
- Foundation trend is downwards, with more candidates but reduced pass rate this year.
- Intermediate trend is flat, but with more candidates and higher pass rate this year.
- Advanced trend is upwards, but with flat candidate numbers and reduced pass rate.

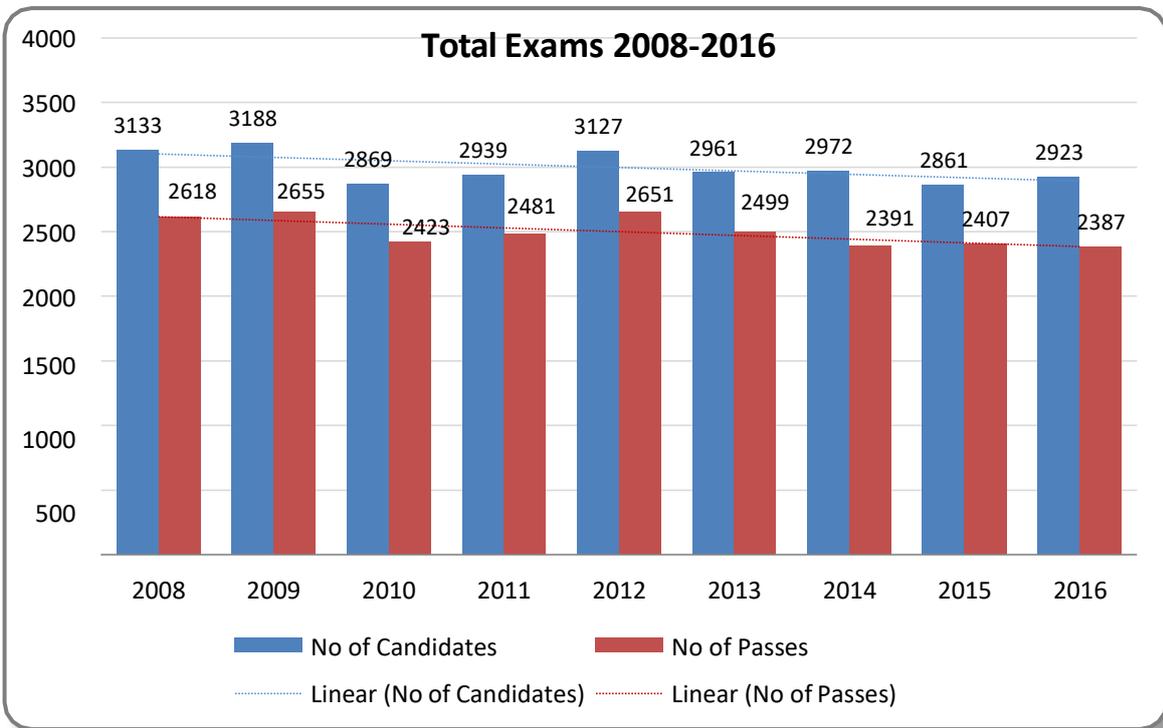
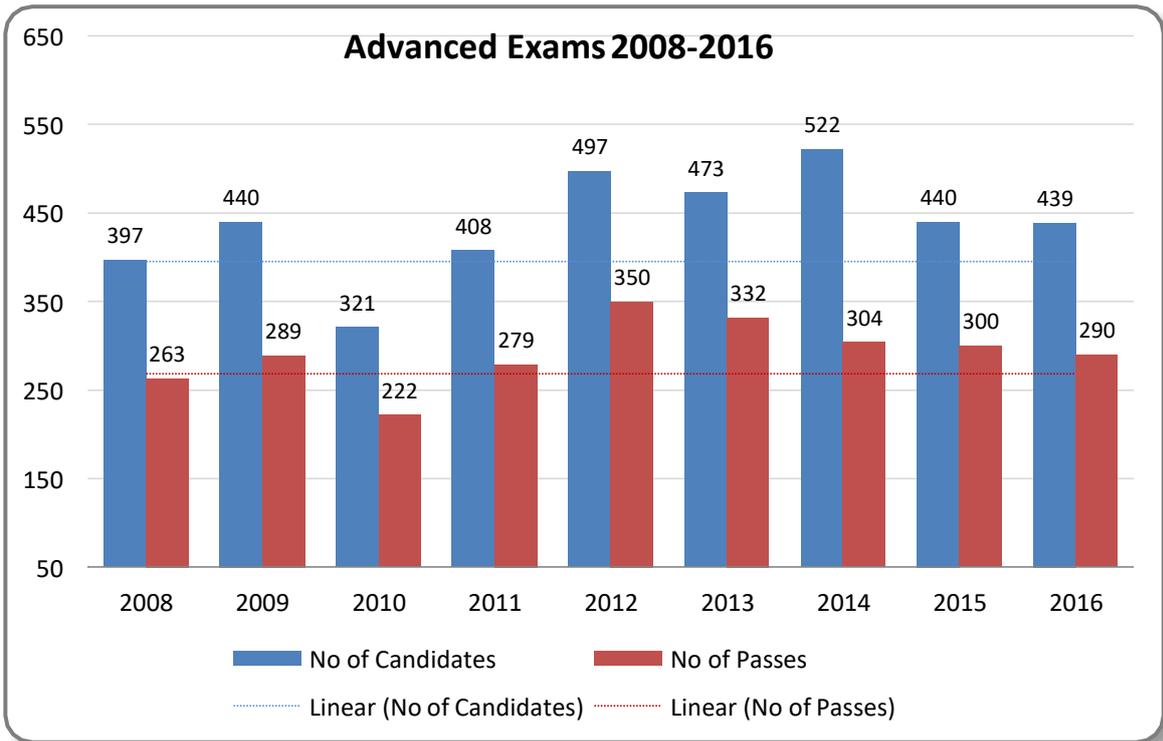
It should be noted that 39 passes at Foundation level were awarded to Air Cadets in 2016, who subsequently applied to Ofcom for a licence, but those figures are not included in the statistics.

### In-year activity

The EMAS system was successfully disaster recovery tested this year, with backup data and server hardware being stored offsite. The system has been reliable throughout the year.

- The TestReach online exam system has been trialled and announced for 2017.
- The level of Registered Assessor applications was 125 in 2016 (up from 114 in 2015).
- Ofcom Licensing System changes have led to increased phone calls for help/advice.





## 6. Report from the ACO Foundation

### Training syllabus

Over the last 2 years the entire ACO communications syllabus has been re-written to suit the new four level Progressive Training Structure. This rewrite has caused a significant delay to Cadets getting qualified to the level required to start Foundation training. The Foundation licence is one of the optional modules in what is now level three of the qualification, previously being in level two. Its position relative to Communicator has not changed, just that level 1 was 'bolted on' shuffling the rest up.

For reference:

- 1: Basic Radio Operator
- 2: Radio Operator
- 3: Communicator (Advanced Radio Operator + Foundation or PSK31 or LAN)
- 4: Communications Specialist - Radio

With Health and Safety deeming that cadets must not be exposed to any form of radiation, non-ionising included, H&S have been systematically shutting down large sections of other cadet forces communications. This has reduced the amount of ACF and CCF(Army) cadets eligible to take the foundation exam. The sea cadets are continuing to adapt their training plans to allow them to take part in our Foundation exams.

The Moodle software, with my Add-On module for generating pdf 'papers', has been continuing without issue. The software now prints an expiry date on the bottom of each paper as an additional reference for ensuring that we do not re-use old papers that may have errors that have been later corrected.

The Moodle software now also generates papers for the ACO Radio Operator and Advanced Radio Operator exams. Radio Operator being the qualification which takes the place of the VHF practical part of the Foundation syllabus.

### Results

Through 2016 we had 151 Cadets register for the exam with 53 of those cancelling.

It is highly likely that when cadets realised they could get a badge at 'Radio Operator' level, rather than doing Foundation, they went for the easy prize and stopped at that point.

- Cadets taking the exam: 98
- Cadets Passing the exam: 68 (69.3%).
- The average pass mark being 83.88%

Analysis of the papers shows that the area causing most problems is Amateur Licensing Conditions.

## Plan for 2017

With levels 1 and 2 of the new syllabus now released and being used we are expecting more cadets to be eligible for the Foundation exam in 2017. This was initially expected to be the case for 2016, but with all other Cadet syllabus subjects also going over to the new 4 tier structure, staff time has been at a premium and we have not progressed as far as we hoped.

As a distractor from Foundation, the new communication syllabus has expanded to include LAN Deployment and Configuration as well the existing Datacomms (PSK31) module, which will probably reduce the number of cadets using the Foundation exam as the optional module at level 3.

During 2017 Wg Cdr Dave Taylor will be retiring from uniformed duty and taking up the currently vacant civilian post of Amateur Radio Officer. I expect to be stepping up to his current role, overseeing Radio and Cyber Communications, and it is expected that Sqn Ldr William (Bill) Boland will take over the Radio Officer role.

Considering that Bill lives in Scotland, meeting attendance is expected to be this;

- Standards Committee: Sqn Ldr David Pink
- Exams group: Dave Taylor.  
Sqn Ldr David Pink

The proposals were accepted.

## Longer term Plans

Level 4 of the new syllabus structure has been developed to incorporate around 70% of the training to progress from Foundation to Intermediate. As soon as it is released for use a gap analysis will be conducted to see if a top-up course for Intermediate is feasible.

## 7. International Amateur Radio Examination (IARE)

Without further resources and a cogent business case the ESC concluded that no further effort could be made available in the short term. The matter could be reviewed in 12 months.