Equality Monitoring 2012/13

Equality Monitoring in the Vehicle and Operator Services Agency

V1.0

In House Analytical Consultancy

Department for Transport

GORS

Government Operational Research Service

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Chapter 1: Management summary

1.1 Introduction

This report is an analysis of staff diversity, for staff in post between 1st April 2012 and 31st March 2013.

The analysis takes data on staff in post, cessations, grievances and discipline, sickness absence, training, performance management and recruitment, and considers whether there were significant differences with respect to sex, race, disability, pay band, age, sexual orientation, religion and belief, job type and working pattern.

Where possible, comparisons have been made against the previous year.

The inequalities and differences identified have been described in non-statistical terms throughout this report. However, where differences have been found to be statistically significant, this has been highlighted. By statistically significant, we mean that the difference is unlikely to have occurred by chance. Where results are not specifically discussed, this generally means that no statistically significant inequalities were found.

1.2 VOSA structure and organisation

The Vehicle and Operator Services Agency (VOSA) aims to improve the roadworthiness of vehicles in the UK by providing licensing, testing, and enforcement services, and supporting independent Traffic Commissioners.

At midnight on 31st March 2012 there were 2,216 VOSA staff in post. 212 staff were based at the headquarters in Berkeley House, Bristol, and 199 staff were based at the other headquarters building, Ellipse, in Swansea. The majority were grouped into 11 other geographical regions across Great Britain.

The analysis divided the staff into notional technical and non-technical groups, of which technical staff made up 59.2%. The highest proportions of non-technical staff were in the two headquarters buildings, whereas the majority of technical staff were evenly spread across the regions.

The number of staff in VOSA has increased by 3.2% since the same date last year (31st March 2012).

1.3 Key findings: Job type

59.2% of staff were in technical roles and 40.8% were in non-technical roles.

Technical staff and non-technical staff had very different diversity profiles.

Technical staff were mainly in band 3, whereas the majority of non-technical staff were in band 2.

The technical staff job type was male-dominated with only 6.2% female staff, whereas 60.6% of non-technical staff were female.

The age profile for technical staff was slightly older than the age profile for non-technical staff.

Working pattern differed significantly with job type; non-technical staff were more likely to work part time (20.6%) than technical staff (4.9%).

1.4 Key findings: Sex

Overall 28.4% (629) of VOSA staff were female.

For technical staff, there were significantly lower proportions of female

staff in all of the geographical locations than expected when compared with the local working-age populations. For non-technical staff there was a higher proportion of female staff in Scotland.

Female staff were mainly in pay bands 1-3 and there were no female technical staff in bands 6-7.

1.5 Key findings: Race

Of those whose race was known, 4.1% has declared themselves as black or minority ethnic (BME). 13.2% of staff had unknown or undeclared race.

Significantly fewer technical staff had declared themselves BME in the West Midlands than expected, compared with the local working-age population.

1.6 Key findings: Disability

Of those who had declared their disability status, 4.3% had declared a disability. 8.4% of staff had unknown or undeclared disability status.

At every location, significantly fewer staff declared a disability than expected, compared with the local working age population.

1.7 Key findings: Age

The age profile was skewed toward older staff, with only 1.3% of staff aged under 25 and the largest cluster of staff (17.7%) in the 50-54 age band.

Staff in band 3 were significantly younger than other staff and part-time technical staff tended to be older than full-time technical staff.

The age profile of staff was often older than expected, compared with the local working-age populations. Generally there were more staff aged 50 and over, and fewer staff aged under 25.

The average age of VOSA staff increased from 47.2 years in 2011/12 to 47.4 years in 2012/13.

1.8 Key findings: Working pattern

11.3% of all staff worked part time.

There were significantly higher proportions of part-time staff in band 1 than in other pay bands, for both job types.

There was a significant difference in the proportion of male and female part-time staff, with 28.3% of female staff and 4.5% of male staff working part time.

Disabled staff were more likely to be part-time, with 17% of disabled staff and 5.3% of non-disabled staff working part time.

1.9 Key findings: Learning and development

VOSA staff had recorded a total of 3,636 days training. Technical staff recorded an average of 2.4 days and non-technical staff recorded an average of 0.5 days training per staff member.

Technical staff: younger staff were more likely to have had recorded training than older staff, as were full-time staff compared with part-time staff, and male staff compared with female staff. Staff in bands 2-3 had significantly more training days than staff in other bands, as did younger staff compared with older staff.

Non-technical staff: staff in bands 3-6 had significantly more training days than staff in other bands, as did full-time staff compared with part-time staff. Staff who had had sick absence had significantly fewer training days than staff with no sickness absence recorded, as did non-disabled staff compared with disabled

staff and staff with undeclared disability status.

1.10 Key findings: Recruitment

At nearly all locations where testing was possible, higher proportions of applicants for technical posts were male than expected, compared with the local working-age populations.

A higher proportion of applicants to technical band 2-3 posts at Other locations and technical band 3 posts in Scotland were non-disabled than expected, compared with the local working-age populations.

Applicants to technical posts at band 3 were less likely to be successful at all stages of the recruitment process compared with applicants to technical posts at other pay bands, although this could be due to the high number of applicants for band 3 campaigns.

Technical applicants who declared a religious belief were more successful than other technical applicants at sift and appointment.

For applicants to non-technical posts, there were more females (for band 2 in North West) and more non-disabled applicants (band 2 at Other locations and bands 1 and 2 in South West, West Midlands, and Yorkshire & Humberside) than expected, compared with the local working-age populations.

Applicants to non-technical band 1 and 2 posts were less likely to be successful at sift than applicants to other pay bands, this could be due to the large number of applicants for band 1 and 2 posts.

1.11 Key findings: Sickness absence

VOSA staff-in-post had an average of 6.8 days of sickness absence; technical staff had 7.1 days and non-technical staff had 6.5 days.

Of the factors analysed, pay band was the most significant in relation to sickness absence, where staff in lower pay bands were more likely to have had sickness absence and tended to have more sickness absence than staff in higher pay bands.

Female staff were more likely to have had sickness absence and had more sickness absence than male staff.

White staff were more likely to have had sickness absence than BME and unknown race staff.

Full time staff had significantly more sick absence than part-time staff.

The effect of age differed by job type: younger non-technical staff were more likely to have had sickness absence than older non-technical staff, but older technical staff had significantly more than younger technical staff.

1.12 Key findings: Performance management

Of the 1,940 performance management reports returned, 3.3% achieved an “Outstanding” mark.

Younger technical staff were more likely to have been awarded an “outstanding” mark than older technical staff.

Female non-technical staff were more likely to have been awarded an “outstanding” mark than male non-technical staff.

1.13 Information quality and recommendations

Data was collected on sexual orientation and religion/belief for the first time this year. The declaration rates for these

were very low and it is recommended efforts are made to improve these.

The declaration rates for disability and race decreased significantly from last year, so it is recommended that efforts are made to increase the declaration rates.

Chapter 2: Introduction

2.1 Equality Monitoring

This report contains an analysis of the diversity of VOSA staff for 2012-13.

The aims of the analysis were to:

- identify differences between diversity groups within VOSA;
- compare the diversity of VOSA staff with the diversity of the local working-age population; and
- highlight any changes since previous years.

2.2 Analysis and reporting

This analysis has considered the following areas of diversity:

- Sex
- Race
- Disability
- Age
- Working pattern
- Sexual orientation
- Religion and belief

And for the following datasets:

- Staff in post
- Recruitment
- Cessations
- Performance management reports
- Learning and development
- Disciplinary cases
- Grievance cases
- Sickness absence

It also gives information about maternity leavers and returners.

Results described in this report are based on the outcomes of statistical tests. These tests are used to identify statistically significant differences between groups – that is, differences larger than the likely range of natural variation.

Data for this report was provided by VOSA HR, and has been summarised in the annex tables provided with this analysis. Recruitment data was provided by DfT Resourcing Group (DRG).

2.3 Data coverage and quality

Data related to staff in post at the end of 31st March 2013, and cessations between 1st April 2012 and 31st March 2013.

For the purpose of these Equality Monitoring reports, Senior Civil Service (SCS) staff from across the DfT family have been analysed together in the DfT(c) report.

Staff on long-term leave (for instance maternity leave[1] and career breaks) are not included in the analysis, and nor are staff who are not civil servants (e.g. consultants, temporary administrators etc).

Data on staff sex, age and pay band are held for each member of staff, but data on disability, race, sexual orientation and religion/belief are voluntarily provided. As a result, and because staff may be unwilling to provide this information, these data often have significant numbers of unknowns or undeclared statuses and subsequently analysis was not always possible.

[1] 12 staff were on paid or unpaid maternity leave on 31st March 2013.

The staff within this report were categorised into two groups for the analysis: technical and non-technical.

2.4 Declaration rates

All employees are encouraged to complete an equality monitoring form which records their race, religion or belief, sexual orientation, disability status, age and sex. The individual information is confidential but the overall statistics are used to analyse trends and support diversity action plans. DfT is keen to achieve high declaration rates and to exceed 90% for all diversity strands (protected characteristics).

The table below shows the position for the year ending 31st March 2013. Age and sex have a 100% declaration rate because this data is automatically available for all employees.

Protected characteristic	Declaration rate
Age	100%
Sex	100%
Race	86.8%
Disability status	91.8%
Sexual orientation	17.6%
Religion and belief	17.6%

Throughout the remainder of this report any references to declaration rates or staff who had declared their status apply to staff who identified with a particular diversity category – such as “disabled“ or “White British”. In other words, for the purposes of the analysis in this report, staff who have declared that they prefer not to say have been grouped with those for whom no information is held, and described as unknown/undeclared. So if, say 10% of staff had chosen not to specify their race, and information was not available for a further 20%, we would quote a declaration rate of 70%, even though technically 80% had made a declaration.

Chapter 3: Staff in post and geographical distribution of staff

This chapter considers the geographical distribution and the diversity mix of VOSA staff.

It compares the diversity of staff at each main location with the diversity of the local working-age population.

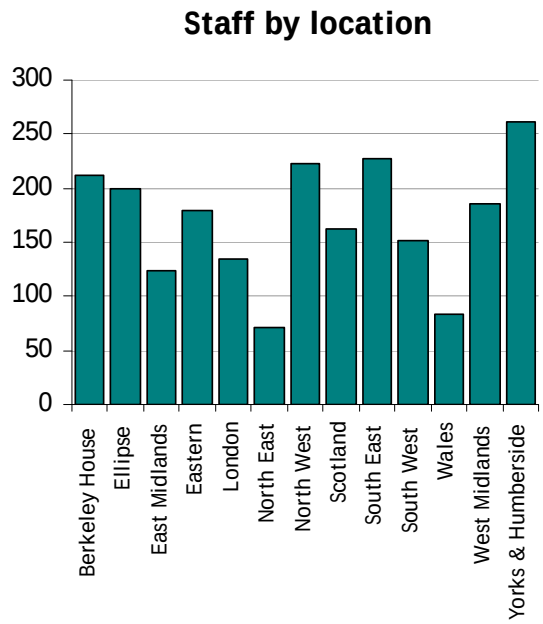
Key findings

- 2,216 staff in VOSA on 31st March 2013 in locations across England, Scotland and Wales.
- 59.2% of staff were in technical roles.
- Only 6.2% of technical staff were female, and all locations had significantly fewer female technical staff than expected.
- 60.6% of non-technical staff were female. In Scotland there were significantly higher proportions of female staff in the lower non-technical pay bands than in the local working-age population.
- 3.6% of staff had declared themselves as black or minority ethnic (BME). Significantly fewer technical staff had declared themselves BME in West Midlands than expected, compared with the local working-age population.
- 4% of staff had declared a disability. At every location, significantly fewer staff declared a disability than expected, compared with the local working age population.
- The age profile was skewed towards older staff, with only 1.3% of staff aged under 25.

3.1 Geographical distribution of VOSA staff

At the end of 31st March 2013 there were 2,216 staff in post. Technical staff made up 59.2% of total staff numbers, the remaining 40.8% was non-technical staff.

The headquarters at Berkeley House in Bristol had 9.6% (212 staff) and Ellipse in Swansea had 9% (199 staff) of the total staff. The remainder were based in other offices across Great Britain. These have been grouped into 11 regional locations and analysed separately.



41% of the 904 non-technical staff were based at either Berkeley House or Ellipse (179 and 192 staff in each office respectively), and 15.4% were based in Yorkshire and Humberside (139 staff). The remaining 43.6% of non-technical staff were evenly spread across the other regional locations.

In contrast only 3% (40 staff) of the 1,312 technical staff were based at either Berkeley House or Ellipse, with the remaining majority evenly spread between the regions.

3.2 Diversity profile of VOSA staff

For all diversity types, comparisons have been drawn with local working-age populations.

There are key differences between technical and non-technical staff, so the next sections show analysis by individual job types.

3.2.1 Sex by location

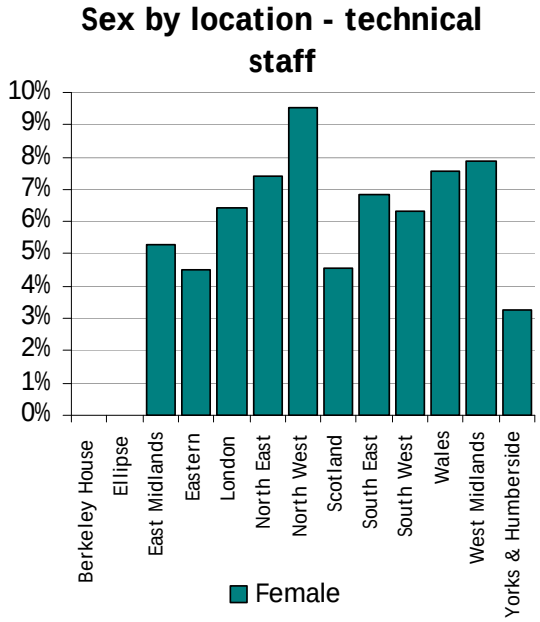
VOSA as a whole

Overall 28.4% (629) of VOSA staff were female.

The proportions of female staff differed significantly between the job types: 60.6% of non-technical staff were female whereas only 6.2% of technical staff were female.

Technical staff

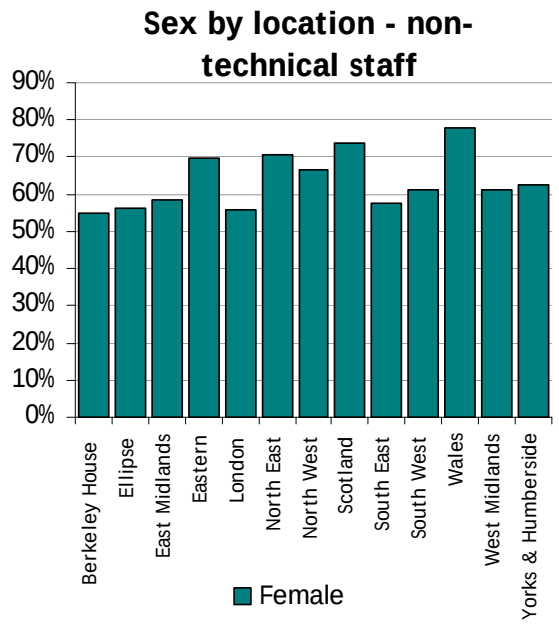
There were no female technical staff in Berkeley House or Ellipse, although there were only 40 technical staff at these locations. Three regions had less than 5% female staff.



All locations had significantly fewer female staff than the proportion of females in the local working-age populations, except Ellipse for which analysis was not possible as there were only 7 technical staff.

Non-technical staff

Female staff made up the majority of non-technical staff in all locations.

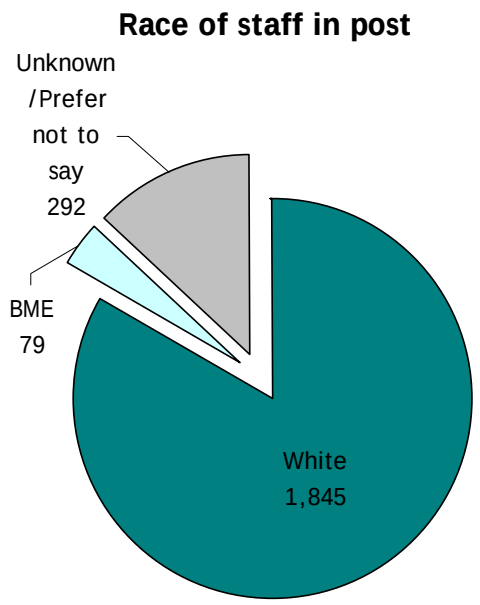


Although there were high proportions of female staff, the only significant difference from local working-age populations was found in Scotland, where there were significantly more female non-technical staff in pay bands 1-3 than expected.

3.2.2 Race by location

VOSA as a whole

Overall 3.6% of staff had declared themselves as black or minority ethnic (BME), with an additional 13.2% with unknown or undeclared race. Of those whose race was known, 4.1% has declared themselves as BME.

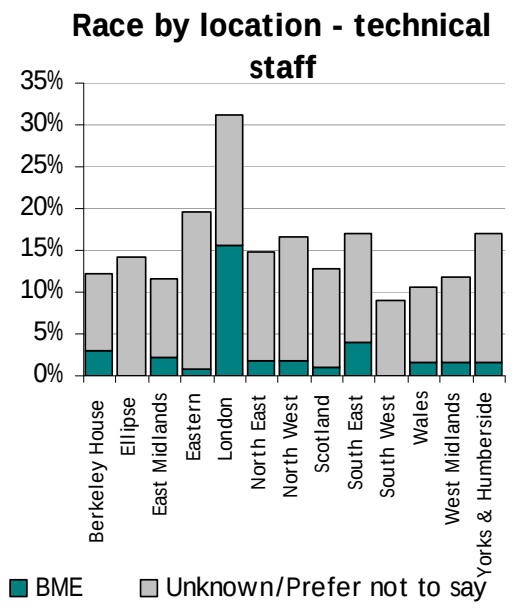


A higher proportion of staff had unknown race than had declared themselves BME, which may affect the quality of results.

A significantly lower proportion of technical staff had declared themselves BME than non-technical staff; where race was known, 5.2% of non-technical staff and 3.3% of technical staff had declared themselves BME.

Technical staff

With the exception of London, fewer than 5% of technical staff in each region or office had declared themselves BME.



For the seven locations where analysis was possible[2], the only significant difference from local working-age populations was found in the West Midlands: significantly fewer technical staff had declared themselves BME (1.8% of staff with known race) than the local working-age population (17.3%).

Non-technical staff

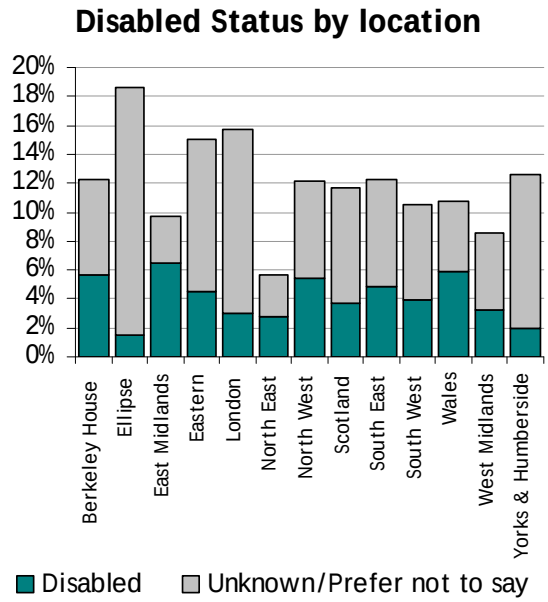
Where analysis was possible[3] there were no differences in race between non-technical staff and local working-age populations.

3.2.3 Disability by location

VOSA as a whole

Overall 4% of staff had declared a disability, with an additional 8.4% with unknown or undeclared disability. Of those who had declared their disability status, 4.3% had declared a disability.

At every location, significantly fewer staff declared a disability than expected, compared with the local working age population[4]. The proportion for the GB working-age population was 20.8%.



Technical staff

Where analysis was possible[5], there were significantly fewer staff with a declared disability compared with the local working-age population in all locations except Berkeley House, East Midlands, North East and Wales.

Non-technical staff

Where analysis was possible[6] there were significantly fewer staff with a declared disability, compared with local working-age populations, in Berkeley House, Yorkshire & Humberside, and Ellipse.

[2] For technical staff, analysis on race was possible for: East Midlands, Eastern, London, North West, South East, West Midlands, and Yorkshire & Humberside.

[3] For non-technical staff, analysis on race was possible for: Berkeley House, Ellipse, West Midlands and Yorkshire & Humberside.

[4] For the disability status of the working-age populations, the definition of disabled includes both those with a disability covered by the Disability Discrimination Act and those with a work-limiting disability.

[5] For technical staff, analysis on disability status was not possible for Ellipse.

[6] For non-technical staff, analysis on disability status was not possible for London, the North East and Wales.

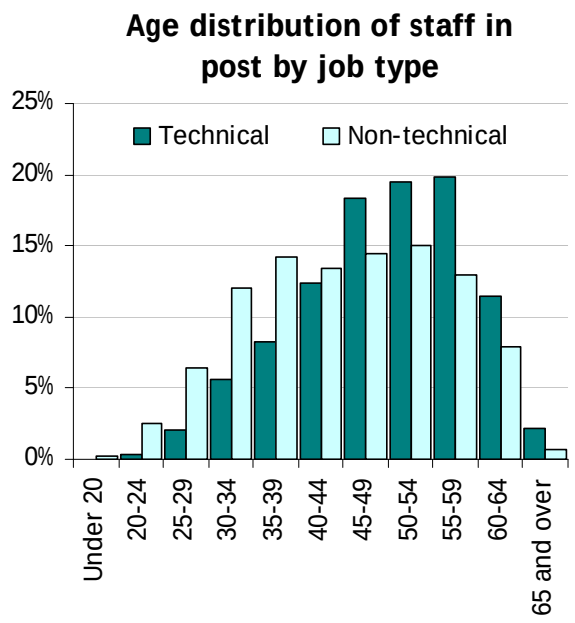
3.2.4 Age by location

VOSA as a whole

The age profile of VOSA's staff was skewed towards older staff, with only 1.3% of staff aged under 25 and the largest cluster of staff (17.7%) in the 50-54 age band.

There were 34 staff aged 65 and over, but these have not been included in the comparison with working-age populations.

The age profile for technical staff was slightly older than the age profile for non-technical staff, as can be seen in the chart below.



Technical staff

At all locations where analysis was possible[7] there was an older age profile for technical staff compared with local working-age populations.

In particular there were significantly more staff aged 50-59 in the following locations East Midlands, London, South West, and Yorkshire & Humberside.

There were also more staff aged 55-59 in the East, more staff aged 50-54 in Berkeley House and Scotland, and more staff aged 45-49 in the West Midlands and the North West, when compared with the local working-age population.

There were significantly fewer staff aged under 20 in the North West and under 25 in the South East, and fewer staff aged 20-24 in Yorkshire & Humberside, than in the local working-age population.

Non-technical staff

The following locations had a significantly older age profile compared with local working-age populations:

- Berkeley House;
- East Midlands;
- Eastern;
- Scotland;
- South East;
- West Midlands;
- Yorkshire & Humberside; and
- Ellipse.

In particular, there were significantly fewer staff aged under 25 in Berkeley House and fewer staff aged under 20 in Ellipse, compared with the local working-age population.

There were significantly higher proportions of staff aged 30-34 in Ellipse than in the local working-age population.

3.3 Sexual orientation

13.9% (308) of VOSA employees had declared their sexual orientation, 4.2% (13) of whom had declared themselves lesbian, gay or bisexual (LGB).

[7] For technical staff, analysis was not possible for Ellipse.

3.4 Religion and belief

13.1% (290) of employees had declared their religion/belief, 71% (206) of whom had declared a religious belief (the remainder declaring atheism/agnosticism or no religious belief).

3.5 Maternity leave

There were 12 staff on paid or unpaid maternity leave at the end of March 2013. 26 staff returned from maternity leave into the agency during the year.

Chapter 4: Staff in post across pay bands

This chapter considers how the minority groups are distributed across the pay bands within the two main job types: technical and non-technical.

The analysis takes each pay band in turn and compares it with all the others.

In this section, for example, "significantly more females than expected" means that there were significantly more females compared with the other pay bands rather than the local working-age population.

Key findings

- Staff in band 3 were significantly younger than other staff.
- Non-technical staff were more likely to work part time than technical staff.
- There were significantly higher proportions of part-time staff in band 1.
- A significantly higher proportion of female staff (28.3%) worked part-time than male staff (4.5%).
- Disabled staff were more likely to be part-time, with 17% of disabled staff and 5.3% of non-disabled staff working part time.

Technical staff

- Technical staff were mainly in band 3.
- No female staff in bands 6-7.
- Female staff tended to be younger than male staff.
- Part-time staff tended to be older than full-time staff.

Non-technical staff

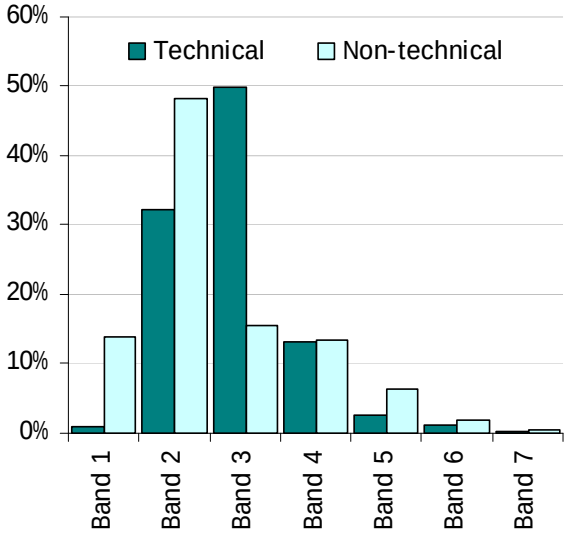
- The majority of non-technical staff were in band 2.
- Higher proportions of female non-technical staff in the lower pay bands.
- A significantly lower proportion of white staff in bands 1-3 and higher proportion in bands 4-5.
- A significantly higher proportion of female staff (31.6%) worked part-time than male staff (3.7%).

4.1 Distribution of staff by diversity group

The following sections describe how staff in each diversity group were distributed within VOSA.

Staff proportions by pay band for each job type were different: technical staff were mainly in band 3, whereas non-technical staff were mainly in band 2.

Pay band distribution of staff in post by job type



4.1.1 Sex distribution

There was a higher proportion of male staff in each pay band, with the exception of band 1 (62.6% of band 1 staff were female).

Technical staff

There were no female technical staff in bands 6-7. There was a significantly higher proportion of female staff in band 3 than other pay bands (9.5% of band 3 staff were female compared with 2.9% of staff outside band 3).

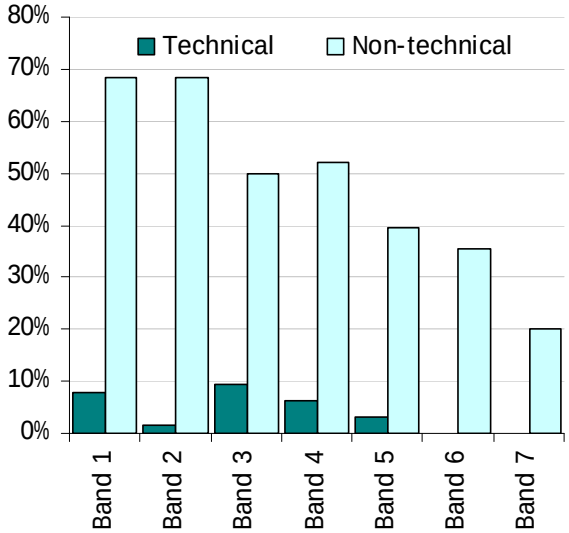
There were significantly more male staff in band 2 than expected compared with other bands (98.6% of band 2 staff and 91.6% of staff outside band 2 were male).

Non-technical staff

There were higher proportions of female staff in the lower pay bands (1-4), with significantly more female staff in band 2 than expected (68.4% were female compared with 53.3% outside band 2).

There were also significantly more male staff in bands 3 and 5 than expected (50% and 60.3% respectively compared with 37.4% outside band 3 and 37.9% outside band 5).

Proportion of female staff by pay band and job type



4.1.2 Race distribution

86.8% of all staff declared their race. Of these, 4.1% declared themselves BME (3.3% for technical staff and 5.2% for non-technical staff).

Technical staff

A significantly lower proportion of band 2 staff declared their race (79.9%) compared with technical staff at other bands (90.3%).

There were no other significant differences for technical staff.

Non-technical staff

There were significantly higher proportions of staff in band 3 and band 5 that had declared their race (92.9% and 98.3% respectively, compared with 85.5% outside band 3 and 85.8% outside band 5).

There was a significantly lower proportion of staff who had declared themselves white in bands 1-3 (79.8% compared with 90% outside bands 1-3). In contrast, there was a significantly higher proportion of staff in bands 4-5 who declared themselves white (89.9% compared with 80.1% outside bands 4-5).

4.1.3 Disability distribution

91.6% of all staff declared their disability status and, of these, 4.3% declared themselves disabled (4.5% for technical staff and 4.1% for non-technical staff).

Technical staff

Declaration rates for disability differed between the pay bands for technical staff: bands 3, 4 and 5 had significantly lower proportions of undeclared and band 2 had a significantly higher proportion of undeclared.

There were no other significant differences for technical staff.

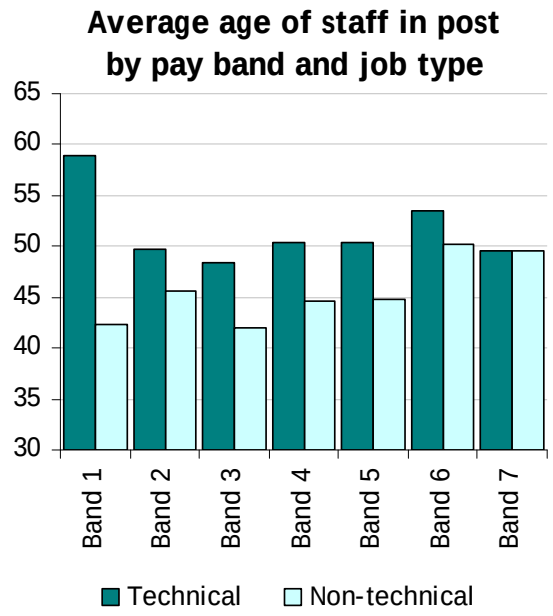
Non-technical staff

Similarly, for non-technical staff band 1 had a significantly higher proportion undeclared and band 4 had significantly lower proportion of undeclared.

There were no other significant differences for non-technical staff.

4.1.4 Age distribution

The age of staff was skewed towards older staff and the average age of all staff was 47.4 years.



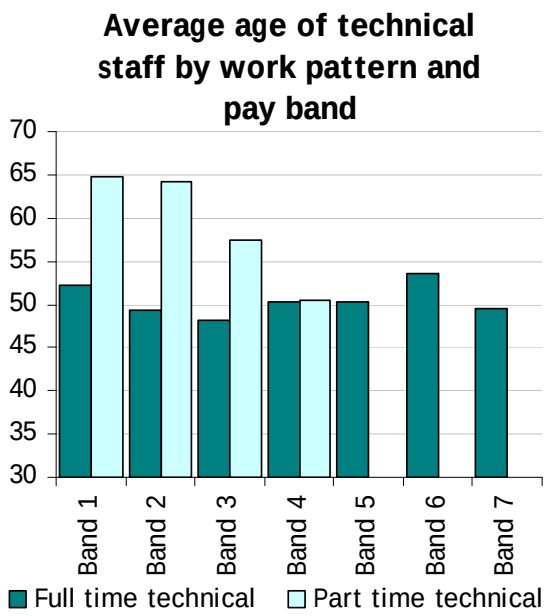
Technical staff

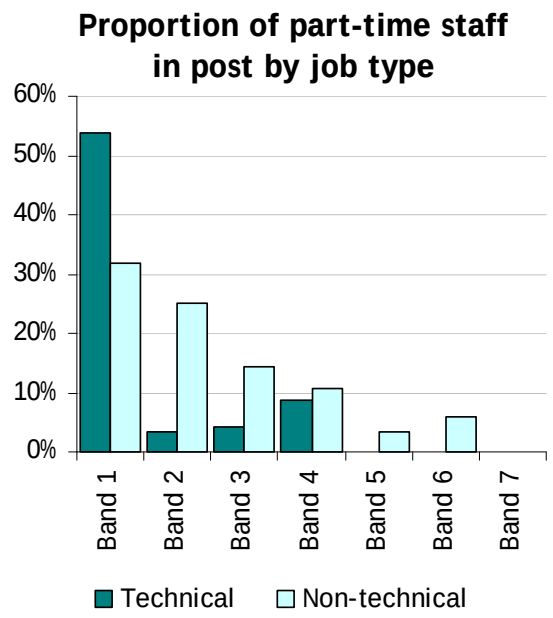
The average age of technical staff was 49.3 years. Staff in band 3 were significantly younger than other technical staff.

There was a significantly higher proportion of female staff aged 30-34 (21% of female staff) than male staff (4.6% of male staff) and the average age of female technical staff was younger than male technical staff (42.4 compared with 49.8 years).

Where analysis was possible, the age and race profile and the age and disability profile of staff were broadly similar across pay bands.

Part-time technical staff tended to be older than full-time staff, with average ages of 58.1 and 48.9 years, respectively.





Non-technical staff

The average age of non-technical staff was 44.5 years. Staff in band 3 were significantly younger than other non-technical staff and staff in bands 2 and 6 were significantly older. Staff in band 7 were also older, but there were too few staff in band 7 to determine a significant result.

There were no significant differences between the ages of female and male non-technical staff.

Where analysis was possible, the age and race profile and the age and disability profile of staff were broadly similar across pay bands.

The average age for part-time technical staff was slightly higher than the average age for full-time technical staff (46.3 compared with 44.1 years).

4.1.5 Working pattern

11.3% of all staff worked part time. This differed significantly by job type: non-technical staff were more likely to work part time (20.6%) than technical staff (4.9%).

Technical staff

There were significantly higher proportions of part-time staff in band 1 (53.8% in band 1, 4.4% outside band 1) and band 4 (8.7% in band 4, 4.3% outside band 4).

There was a significant difference in the proportion of male and female part-time staff, with 6.2% of female staff and 4.8% of male staff working part-time.

There was a significantly higher proportion of older staff amongst those who worked part time, compared with those working full time.

Non-technical staff

There was a significantly higher proportion of part-time staff in band 1 (31.7% compared with 18.8% outside band 1). In contrast, there were significantly more full-time staff in bands 4-5 (91.6% compared with 76.4% outside bands 4-5).

As with technical staff, there was a significant difference in the proportion of male and female part-time staff (31.6% of female staff and 3.7% of male staff worked part-time).

There was also a significantly higher proportion of white staff amongst those who worked part time, compared with those working full time (98.7% of part-time staff were white, compared with 95.5% of full-time staff).

Chapter 5: Year on year comparisons

This chapter looks at how VOSA has changed in terms of diversity in the year since the last Equality Monitoring report one year ago.

Key findings

- 3.2% increase in VOSA staff since last year; 11.6% increase in non-technical staff and 1.9% decrease in technical staff
- Staff are significantly older this year compared with last year.
- Significantly more technical staff are part-time this year compared with last year.
- Significantly more band 2 non-technical staff are male this year compared with last year.
- The declaration rate for race and disability has significantly decreased.
- Data for sexual orientation and religion/belief was collected for the first time this year.

5.1 Year on year comparison

5.1.1 Staff numbers

The number of staff in VOSA has increased by 3.2% since the same date last year (31st March 2012). This differed by job type: non-technical staff increased by 11.6%, but technical staff decreased by 1.9%.

5.1.2 Change in diversity profile

The age profile has shifted slightly (but statistically significantly) from last year, and the average age of staff has increased from 47.2 years to 47.4 years.

For technical staff, there was a significant increase in the proportion of part-time staff (from 3.1% to 4.9%).

For non-technical staff, the proportion of male staff in band 2 has increased significantly from 24.7% to 31.6%.

There was also a shift in declaration rates: the proportions of staff that had declared their race and their disability status decreased significantly. Race declarations dropped from 91.8% in 2011/2012 to 86.8% in 2012/2013. Disability status declarations dropped from 94.7% in 2011/2012 to 91.6% in 2012/2013.

There was an increase in declaration rates for sexual orientation and religion/belief because this data was collected for the first time this year.

Chapter 6: Recruitment

This chapter considers the equality mix of candidates applying for roles within VOSA in 2012/13.

Recruitment analysis has been split into two sections:

- The first section compares candidates with local working-age populations. These are all campaigns which have been advertised outside the Agency.
- The second section looks at the success of all candidates through the various stages of recruitment – sift, interview and appointment.

The DfT recruitment freeze came into effect on May 18th, 2010 and restrictions continued during 2012/13.

Since 2010, the DfT Resourcing Group (DRG) have managed all of VOSA recruitment, and data is held on their behalf by DfT Shared Services[8]. Data was collected for all recruitment campaigns launched outside the agency during 2012/13.

This year, recruitment data does not include campaigns that were advertised only within the Agency as the majority are now handled by individual business units without DRG's involvement.

Key findings

Diversity of applicants

- Technical posts: at nearly all locations where testing was possible, higher proportions of applicants were male than expected, compared with the local working-age population. Higher proportions of applicants to band 2-3 posts in Other locations and band 3 posts in Scotland were non-disabled than expected, compared with the local working-age populations.
- Non-technical posts: a higher proportion of applicants to band 2 posts in the North West were female than expected, and higher proportions of applicants to band 2 posts were non-disabled than expected (South West, West Midlands, and Yorkshire & Humberside), compared with the local working-age populations.

Success rates through the recruitment process

- Technical posts: band 3 applicants had a lower success rate than applicants to other pay bands (although this could be due to the high number of applicants for band 3 posts). Applicants who declared a religious belief were more successful than applicants who declared no religion/belief and those with unknown religion/belief (at sift and appointment).
- Non-Technical posts: band 1-2 applicants had a lower success rate and band 3-4 applicants had a higher success rate (again this could be due to the number of applicants per campaign).

[8] Civil Service Recruitment started holding this data from mid March 2013.

6.1 Diversity of applicants

This section compares the profile of applicants with that of the local working-age population.

All of these applicants applied for posts that were advertised outside VOSA (even if they were already employees within the Agency). This includes posts that were advertised across the DfT family, across the civil service and external to the civil service.

1,927 applications were received for 116 campaigns. Of these, 1,045 applications were received for 56 campaigns for Technical posts, and 882 applications for 60 campaigns for Non-Technical posts.

The table below shows how the campaigns were distributed across locations. The Other category includes campaigns where various locations were available.

	Technical		Non-Technical	
Location	Applications	Campaigns	Applications	Campaigns
East Midlands	0	0	32	1
Eastern	64	12	11	1
London	12	3	5	1
North West	86	4	64	3
Other (GB)	636	8	52	6
Scotland	122	7	0	0
South East	30	5	0	0
South West	39	11	323	35
Wales	0	0	48	5
West Midlands	30	3	144	3
Yorks & Humberside	26	3	203	5

Due to small numbers of applicants to many of the locations, little analysis was possible at location level. Where analysis was possible, the results are presented below.

Only applicants with a known disability status were included in the disability analysis below. Likewise, only applicants with a known sex were included in the male/female analysis.

Data for some of the applicants who declared their race is subject to a database coding problem that means that it has not always been possible to determine whether they are white or BME. They have been classed as "unknown/prefer not to say" for the purpose of this report, and work is underway to rectify the problem.

Technical applicants

Information was available on the sex of most applicants (99.6%). Of these, 94.1% were male and 5.6% were female.

At nearly all locations where analysis was possible, significantly more males applied for technical posts than expected, compared with the local working-age population - at least 86% of applicants for posts in Other locations, Eastern, North West, Scotland, South East, South West, West Midlands, and Yorkshire & Humberside were male. The only location where this was not statistically significant was London (83.3% male).

The disability status of 96.4% of applicants was known. Of these, 97.8% were non-disabled and 2.3% were disabled.

A higher proportion of applicants to band 2-3 posts in Other locations and band 3 posts in Scotland were non-disabled (97.5% and 100% respectively) than

expected, compared with the local working-age population (79.2% and 77.6% respectively).

Due to the large proportion of applicants whose race was unknown (69.8%), no race analysis was possible.

Non-technical applicants

Information on the sex of nearly all applicants (98.6%) to non-technical posts was known, of whom 53.4% were male and 46.6% were female.

A higher proportion of applicants to band 2 posts in North West were female (78.1%) than expected, compared with the local working-age population (50.2%).

The disability status of 96.6% of applicants was known. Of these, 93.5% were non-disabled and 6.5% were disabled.

Higher proportions of applicants to band 2 posts in South West (90.1%), West Midlands (93.5%), and Yorkshire & Humberside (97.3%) were non-disabled than expected, given that 78.7%, 78.1% and 89.8% of the respective local working-age populations were non-disabled.

As with technical applicants, a high proportion of applicants with unknown race (68.1%) meant that no race analysis was possible.

6.2 Sift to appointment analysis

This analysis compares the profile of applicants who were successful at sift, online assessment and interview with those who were unsuccessful. Finally, it compares all applicants who were offered a job with those who were not.

All applications were included in this analysis: whether the post was advertised within the DfT family, within the civil service or outside the civil service.

At each stage, applicants whose result was unknown were excluded from the analysis.

Due to high proportions of applicants whose race was unknown, race was not included in this analysis.

6.2.1 Sift

Of the 1,927 applications received, 1,795 were considered at sift. The remainder are assumed to have been withdrawn before sifting or the sifting result was unknown because the recruitment campaign was still on-going.

34.6% of the 975 applications considered at sift for technical posts were successful at sift. 29% of the 820 applications considered at sift for non-technical posts were successful.

Technical applicants

Applicants to band 3 posts had a lower sift success rate than expected - 30% of applicants to band 3 were successful, compared with 39% of all other applicants. This is likely to be due, in part, to the fact that there were more applicants per band 3 campaign compared with other campaigns.

Applicants who declared a religious belief had a higher success rate at sift than expected: 38% were successful at sift compared with 28.3% of applicants who declared no religious belief and 28.4% of applicants with unknown religion/belief.

Female applicants had a higher success rate at sift than male applicants – 47.1% of female applicants were successful

compared with 33.8% of male applicants.

LGB applicants had a lower success rate at sift than expected: 14.8% were successful compared with 35.5% of heterosexual applicants and 28% of applicants with unknown sexual orientation.

The number of applicants declaring themselves to be a gay man, lesbian or bisexual at the sift stage was low (27 or 2.8%) and lower than the number of applicants who had not declared their sexual orientation (50 or 5.1%). For this reason, the significance of sexual orientation as a factor in sift success may be misleading, and this result should be treated with caution.

Non-technical applicants

Applicants to band 1 and 2 posts were less likely to be successful at the sift stage than all other applicants. However, these pay bands had very high numbers of applicants per campaign, and so it would be expected that a lower proportion would be successful.

No diversity characteristics were significant in determining success at the sift stage.

6.2.2 Online assessment

Online assessments were only used in two technical campaigns. Five applicants took the online assessment and three passed.

No analysis was possible due to the small numbers.

6.2.3 Interview

Of the 574 applicants who were successful at sift and the online assessment, 423 were interviewed (150 withdrew, were on a reserve list or the result is unknown because the campaign is on-going).

30.2% of 258 interviewees for technical posts were successful and 44.6% of 166 interviewees for non-technical posts were successful.

Technical applicants

Interviewees for band 3 posts had a lower success rate (20.8%) than those for other pay bands (34.3%), although there were more applicants per campaign for band 3 campaigns than other campaigns, and so it is unsurprising that a lower proportion would be successful.

Non-technical applicants

In contrast, interviewees for non-technical band 3 posts had a higher success rate (73.7%) compared with other bands (40.8%). This is unsurprising as there were fewer applicants per campaign for band 3 posts compared with campaigns for posts in other bands.

6.2.4 Appointed (offered a job)

There were 1,882 applicants with known application result (the results for 45 applicants were unknown because campaigns are on-going).152 applicants (8.1%) were appointed.

78 (7.7%) of the 1,020 applicants to technical posts were appointed, and 74 (8.6%) of the 862 applicants to non-technical posts were appointed.

Technical applicants

Proportionately fewer applicants to band 3 posts were appointed compared with other pay bands. 3.3% of band 3 applicants were successful, compared with 11.6% for other pay bands. However, band 3 had more applicants

per campaign than other pay bands, so this result is unsurprising.

Applicants who declared a religious belief had a higher appointment rate than expected: 9% were appointed, compared with 4.9% of applicants who declared no religion and 6.3% of applicants with unknown religion/belief.

Non-technical applicants

Applicants to non-technical band 3 and band 4 posts were more likely to be appointed than expected; 29.2% of applicants to band 3 and 22.5% of applicants to band 4 were appointed, compared with 6.2% for other pay bands. However, this is unsurprising due to the fact that band 3 and band 4 posts had fewer applications per campaign than other pay band posts.

Chapter 7: Ceased employment

This chapter compares the profile of staff who left VOSA during 2012/2013 with that of the staff in post at the end of the reporting year.

Key findings

- 123 staff left VOSA during 2012/13.
- The majority of staff that had left were aged 50 or over.
- For technical staff, significantly higher proportions of older staff left.

7.1 Ceased employment

123 staff left during the year, 5.7% of staff in post at 31st March 2012. This proportion differed for technical (4.9%) and non-technical staff (7.2%).

The main leaving reason was retirement (51 cessations, 41.5% of all cessations) and the majority of staff that had left were aged 50 or over.

For all staff, none of the diversity factors were significantly linked with cessations.

For technical staff, age was a significant factor – staff who left tended to be older. There were no other significant diversity factors.

The only significant factor for non-technical staff was pay band: no band 5 staff left.

Chapter 8: Performance assessment

This chapter looks at the Performance Management Reports (PMRs) for the reporting year ending 31st March 2013.

At the end of each reporting year, VOSA employees are awarded a performance assessment mark, based on their end-of-year reports. Employees were awarded one of the following five marks:

- Outstanding
- Exceeds requirements
- Satisfactory – meets requirements
- Not fully effective
- Unsatisfactory

The analysis examines whether there was a significant difference between the profile of those achieving the top box mark (Outstanding), and those who did not receive that mark[9].

Key findings

- 1,940 performance management reports had been returned.
- 2.9% of technical staff and 4% of non-technical staff were awarded the top performance mark.
- Technical staff who manage more people were more likely to have been awarded the top mark.
- Younger technical staff were more likely to have been awarded the top mark than older technical staff.
- Female non-technical staff were more likely to have been awarded the top mark than male non-technical staff.

[9] Where a member of staff has been promoted toward the end of the reporting year, their recorded performance mark may have related to their time in the lower payband rather than the current payband. However, the analysis is based on their current pay band.

8.1 Headline results

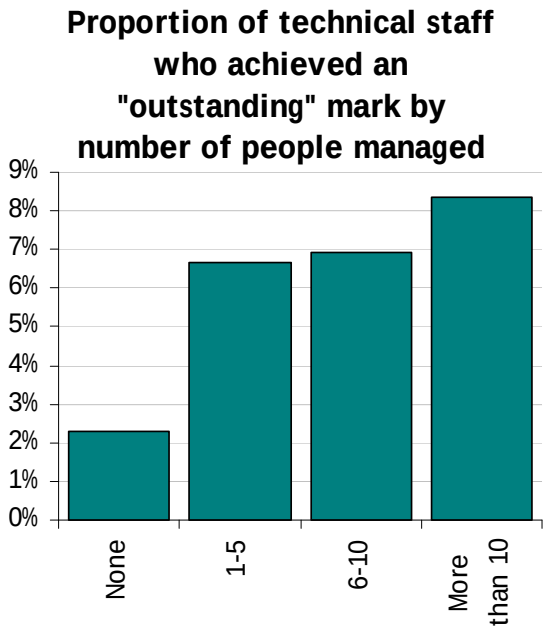
1,940 performance box mark ratings had been returned, of which

- 3.3% were awarded “outstanding”;
- 28.4% were awarded “exceeds requirements”;
- 68.1% were awarded “satisfactory – meets requirements”;
- 0.2% were awarded “not fully effective”;
- No staff were awarded “unsatisfactory”.

Technical staff

1,194 performance box mark ratings were for technical staff and 2.9% achieved an “outstanding” mark.

Technical staff who manage more people were significantly more likely to have achieved an “outstanding” mark than technical staff who manage fewer people, as can be seen in the chart[10].



Younger technical staff were significantly more likely to have achieved an “outstanding” mark than older technical staff: 4.3% of staff under 40 achieved an “outstanding mark” compared with 2.6% of staff over 40.

Non-technical staff

746 performance box mark ratings were for non-technical staff and 4% achieved an “outstanding” mark.

A significantly higher proportion of female non-technical staff had achieved an “outstanding” performance mark than male non-technical staff: 5.4% female staff achieved an “outstanding” mark whereas only 1.8% of male staff achieved this mark.

[10] Only staff who received a PMR were included in the count of people managed

Chapter 9: Learning and development

This chapter considers number of days of recorded training undertaken by each diversity group.

The training analysed here only includes training booked and recorded through VOSA's training system. It is therefore likely that this understates the total amount of training actually taken.

All reference to "training" in this chapter means recorded training as described above.

Key findings

- VOSA staff had recorded a total of 3,636 days training.
- Technical staff recorded an average of 2.4 days and non-technical staff recorded an average of 0.5 days training per staff member.

Technical staff

- Band 2 and band 3 staff had significantly more training days than other staff.
- Younger staff were more likely to have had recorded training than older staff, and also significantly more training days.
- Full-time staff were more likely to have had recorded training than part-time staff
- Male staff were significantly more likely to have had recorded training than female staff
- Staff that had had fewer days sickness absence had significantly more training days, compared with staff that had had more sickness absence.

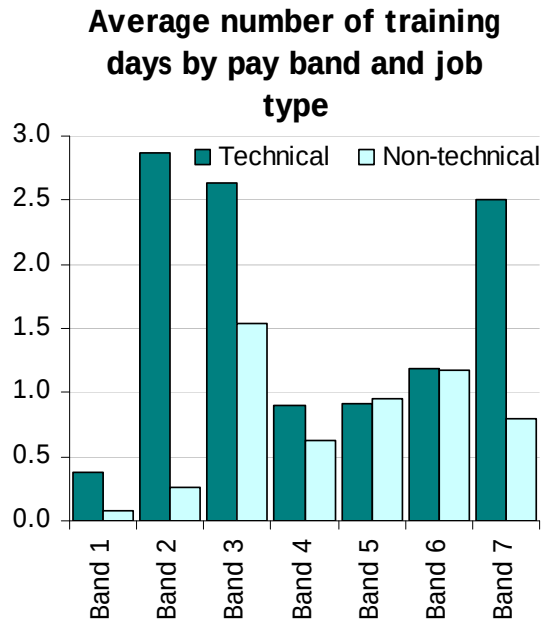
Non-technical staff

- Staff in bands 3-6 had significantly more training days than staff in other bands.
- Non-disabled staff had significantly fewer training days recorded than disabled staff and staff with undeclared disability status.
- Full-time staff had significantly more training days than part-time staff.
- Staff that had had more sickness absence had significantly fewer training days compared with staff that had had less sickness absence.

9.1 Recorded training by diversity group

There was a total of 3,636 days recorded training and an average of 1.6 days per person; technical staff had more recorded training (3,144 days) than non-technical staff (492 days).

Due to the large differences in recorded training, technical and non-technical staff have been analysed separately for this section.



9.1.1 Technical staff

Technical staff had an average of 2.4 days recorded training per person.

Pay band

The most significant factor linked with training for technical staff was pay band.

There was a significantly higher proportion of band 3 staff that had recorded training (55.7%) compared with staff at other bands (37.8%).

On average, band 2 and band 3 staff had significantly more training days than other pay bands, as can be seen in the earlier chart. Band 7 did have a large number of training days, but there were too few staff in band 7 to determine a significant result.

Age

Age was also a significant factor. Younger staff were more likely to have had recorded training than older staff, and also had significantly more days. In particular, younger staff within bands 2-4 had significantly more training days than older staff in these bands.

Work pattern

Work pattern was the next most significant factor: full-time staff were more likely to have had recorded training (48% of full-time staff recorded training compared with 21.9% of part-time staff).

Within bands 3 and 4, full-time staff had significantly more training days recorded than part-time staff.

Sex

Male staff were significantly more likely to have had recorded training than female staff, but there was not a significant difference in the number of days recorded.

Sick absence

Staff that had had fewer days sick absence had significantly more training days, compared with staff that had had more sick absence.

9.1.2 Non-technical staff

Non-technical staff had an average of 0.5 days recorded training per person.

Pay band

Pay band was the most significant factor linked with training. Staff in bands 1 and 2 were significantly less likely to have had any recorded training (3.2% and 7.8% respectively) and band 6 staff were

significantly more likely to have had recorded training (70.6%), compared with staff at other bands.

Staff in bands 3-6 had significantly more training days (average of 1.1 training days) and band 1 staff had significantly fewer (average of 0.1 training days) compared with staff at other bands.

Disability status

After pay band, disability status was the next most significant factor. Non-disabled staff had significantly fewer training days recorded – 0.5 training days on average compared with 0.6 for other staff (disabled staff and undeclared staff).

Working pattern

Full-time staff had significantly more training days recorded – 0.6 training days on average compared with part-time staff had 0.3 training days on average.

Sick absence

Staff that had had more days sick absence had significantly fewer training days recorded compared with staff that had had less sick absence.

Chapter 10: Grievances and discipline

This chapter considers grievances and discipline cases by diversity group, looking at how representative they were of staff in VOSA.

The numbers involved for both grievance and discipline cases were too small to carry out statistical testing by pay band.

Key findings

- There were 14 grievance cases and 30 discipline cases, covering a mixture of diversity groups.
- The small numbers meant analysis was not possible.

10.1 Grievance cases

There were 14 grievance cases in total during 2012/13, involving staff across a range of diversity groups: three cases involved female staff; none involved BME staff; two involved disabled staff; two involved non-technical staff; all 14 involved full-time staff; one involved LGB staff (eight involved staff with undeclared sexual orientation); and none involved staff who declared no religion (eight involved staff with undeclared religion/belief).

10.2 Discipline cases

There were 30 discipline cases in total during 2012/13: eight cases involved female staff; three involved BME staff; one involved disabled staff; 14 involved non-technical staff; 28 involved full-time staff; none involved LGB staff (27 involved staff with undeclared sexual orientation); and none involved staff who declared no religion (28 involved staff with undeclared religion/belief).

Chapter 11: Sickness absence

This chapter considers days recorded absent due to sickness by each diversity group.

Data on days lost to sickness absence were supplied for all staff that were in post at the end of the reporting year (i.e. not including staff who had left VOSA during the year).

Both the likelihood of being absent due to sickness and the number of days recorded were analysed according to key diversity factors (sex, race and disability status), as well as pay band, age and job type.

Only the factors that showed significant results are commented upon in this chapter.

The purpose of this analysis was to consider differences in sickness absence by diversity group. Like other analysis in this report, it applies to staff who were in post on 31st March 2013, excluding those on long term leave (except for staff on long term sick, who are included in this analysis). It therefore does not match the official sickness absence figures reported quarterly to the Cabinet Office, which should remain the official source.

The main difference with the Cabinet Office returns is that this analysis has not made adjustments for available working time – e.g. staff who have worked for less than the full year.

Key findings

- VOSA staff-in-post had an average of 6.8 days of sickness absence; technical staff had 7.1 days and non-technical staff had 6.5 days.

Incidence of sickness absence

- Staff in lower pay bands were more likely to have had sickness absence than staff in higher bands, as were female staff compared with male staff and white staff compared with BME staff and unknown race staff.
- In addition for non-technical staff younger staff were more likely to have had sickness absence than older staff.

Amount of absence

- Staff in lower pay bands had more sickness absence than staff in higher bands, as did female staff compared with male staff and full-time staff compared with part-time staff.
- In addition for technical staff older staff had more sickness absence than younger staff.

Note: Where part-time staff working shorter than standard days had been absent on one of their working days, a full day was recorded in the data rather than the actual hours they had been expected to work. We cannot identify individuals' actual working patterns to make a suitable adjustment, so this means that the days quoted in the report may overstate the amount of sickness absence taken.

This issue does not arise for part-time staff working standard-length days.

11.1 Overall analysis

Cabinet Office Figures

Official Cabinet Office figures for sickness absence in VOSA are as follows:

Average days of sickness absence (Average Working Days Lost)	8.3
% employees with sickness absence	54%

As stated in the introduction to this chapter, the Cabinet Office figures should remain the official source of sickness absence figures for VOSA. Any figures quoted from here on in are based on staff-in-post on the midnight of 31st March 2013 and do not include employees on long-term leave at this point in time (those with long-term sickness absence are included in the analysis).

Therefore any averages quoted will be different from the official Cabinet Office averages above.

Equality monitoring sickness absence

On average, VOSA staff who were in post at 31st March 2013 had had an average of 6.8 days of sickness absence each in 2012/13.

53.8% of staff had had some sickness absence during the reporting year. Of these staff, the average sickness absence was 12.7 days.

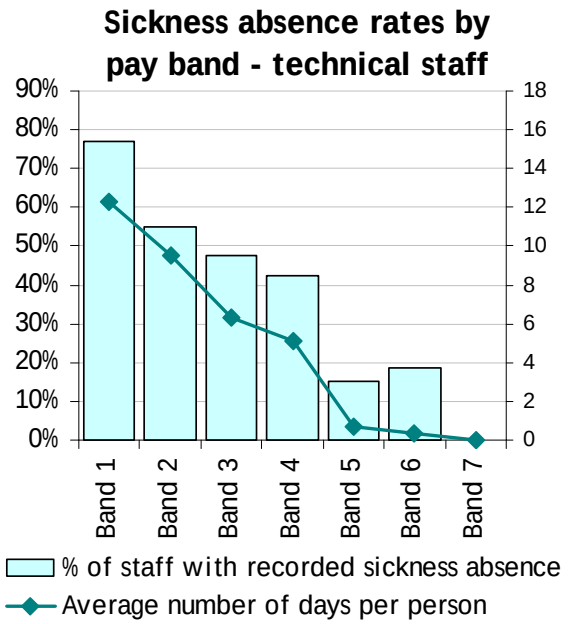
The breakdown of these figures by job type is shown in the table below.

Job type	Technical	Non-technical	All staff
Average number of days sickness absence : all staff	7.1	6.5	6.8
Proportion of staff recording sickness absence	51.5%	61.5%	53.8%
Average number of days sickness absence : staff who recorded sickness absence	14.5	10.5	12.7

11.2 Technical staff

Pay band

Pay band was the most significant factor when considering the proportion of staff that had had sickness absence and the amount of sickness absence. There was a significantly higher proportion of staff with sickness absence in bands 1-2 and a significantly lower proportion in bands 5-6. Staff in bands 1-4 had had significantly more sickness absence than other staff.



Sex

There was a significantly higher proportion of female staff with sickness absence (63.4%) than male staff (47.5%) and female staff had had significantly more sickness absence. In particular, female staff in bands 2-4 had significantly more sickness absence than male staff in those bands.

Race

White staff were significantly more likely to have had sickness absence (50.1%) than BME staff (39.5%) and staff with unknown/undeclared race (40.5%). In band 2 white staff had had significantly more sickness absence than other staff, but in band 4 white staff had had significantly less sickness absence.

The opposite results in band 4 was due to staff with unknown race: in band 4, on average, white staff had 4.3 days sickness absence, BME staff had 3 days and staff with unknown race had 17 days. Whereas in band 2, on average, white staff had 10.7 days, BME staff had 2.1 days staff with unknown race had 5.9 days.

Age

Older staff had significantly more sickness absence than younger staff. In particular, older staff in bands 2-4 had significantly more sickness absence than younger staff in those bands.

Working pattern

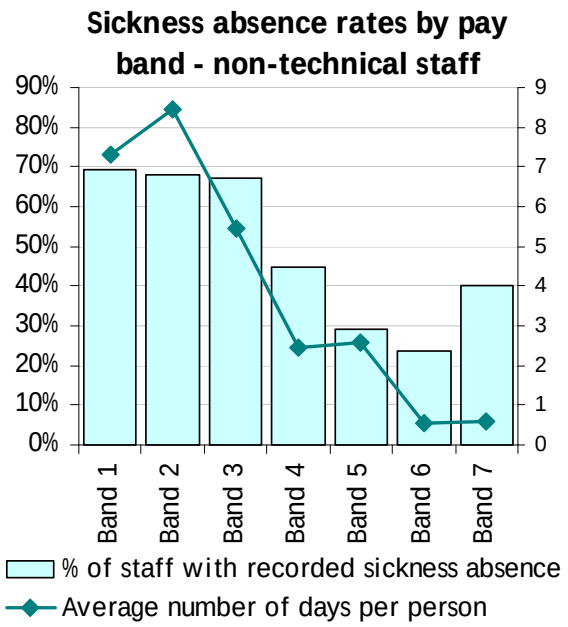
Full-time staff had significantly more sickness absence than part-time staff. This was true in bands 1-3 but in band 4, part-time staff had significantly more sickness absence than full-time staff.

11.3 Non-technical staff

Pay band

As with technical staff, pay band was the most significant factor. There was a significantly lower proportion of staff with sickness absence in bands 4-6 compared with staff outside bands 4-6.

Staff in bands 1-3 had significantly more sick absence than staff outside bands 1-3.



Sex

There was a significantly higher proportion of female staff with sickness absence (67.0%) than male staff (52.9%) and female staff had significantly more sickness absence.

Working pattern

Full-time staff had significantly more sickness absence than part-time staff. In particular, full-time staff in bands 1-2 had significantly more sickness absence than part-time staff in those bands.

Age

Younger staff were significantly more likely to have had sickness absence than older staff.

The amount of sickness absence varied by age and pay band, as can be seen in the graph below. In bands 2 and 4 younger staff had significantly more sickness absence, but in bands 3 and 5 older staff had significantly more sickness absence.

Race

Race was a significant factor when considering the amount of sickness absence in some pay bands. In band 1 staff with unknown race had significantly less sickness absence than other staff at band 1 (white and BME staff). In band 2 BME staff had significantly more sickness absence that other staff at band 2 (white staff and staff with unknown race).

Annex A: Notes on data

A.1 Working-age populations

A.1.1 Reporting locations

To compare the diversity of staff in post with local working-age populations, we attached each building where staff were located to a Reporting Location, e.g. London, Swansea, etc. This means that all of the staff based in London, for example, were considered as being in one location, irrespective of which part of London they were located in.

For each Reporting Location we identified a catchment area and generated local working-age population figures based on data for that catchment area.

A catchment area would typically include the relevant Local Authority area for the Reporting Location, plus neighbouring Local Authorities, as agreed with each Agency. For example, for the London Reporting Location, we used the working-age population of all the London boroughs as well as those counties that border them.

A.1.2 Data sources

The UK population data at Local Authority[11] level is from the **Annual Population Survey (APS).** This survey is a combined survey of households in Great Britain, updated quarterly and available at Local Authority level and above. It is a residence-based labour market survey which includes population and economic activity, broken down by sex, age, race, industry and occupation[12] .

The majority of DfT agencies have staff based only in Great Britain, but the Maritime and Coastguard Agency (MCA) also has staff working in Northern Ireland. In previous years, data for Northern Ireland was taken from the **Northern Ireland Labour Force Survey (NI LFS)**; however, this year, this data was also available as a part of the APS dataset.

Where a nationwide population comparison was required, for all agencies other than MCA, the GB working-age population (i.e. not including Northern Ireland) was used. For MCA, the UK working-age population was used.

APS data used in the 2012/13 Equality Monitoring reports was based on the one year period October 2011 - September 2012, and downloaded from www.nomisweb.co.uk ("Nomis") on 7th May 2013.

A.1.3 Population

Population data at local authority level from the APS was combined with **mid-year** (30 June) **population estimates** for 2011 – the most recent year available. These were also available at Local Authority level and were based upon results from the 2011 Census with allowance for under-enumeration. These figures covered the entire population, not just the working-age population, so to estimate the working-age population (those aged

[11] Local authorities including County Councils rather than District Councils.

[12] Further information on the survey can be found at http://www.ons.gov.uk/ons/about-ons/who-we-are/services/unpublished-data/social-survey-data/aps/index.html

16-64 years) we took the number of males and females aged 15-64 years[13] (only five year age bands were available).

A.1.4 Disability status

The APS asks respondents whether they are currently DDA disabled, work-limiting disabled, both DDA disabled and work-limiting disabled, or not disabled. For this report, we have combined data on DDA disabled, work-limiting disabled, and both DDA and work-limiting disabled to calculate proportions of the working-age populations that are disabled.

Northern Ireland disability statistics from the NI LFS were obtained via Nomis.

A.1.5 Race

APS data was available for the following ethnic groups:

- Mixed;
- Indian;
- Pakistani/Bangladeshi;
- Black/Black British; and
- Other.

For our analysis, we have combined all the above into a single BME category.

A.1.6 Sickness absence data

For DfT(c) and all agencies, data was available on the number of days of recorded sickness absence for each member of staff, with one record per incidence.

Working pattern

No adjustment has been made to absence records for part-time staff. The analysis has been performed on the number of days absent (i.e. how many days of work were recorded as missed).

If the analysis suggests that part-time staff had significantly more sickness absence, then we can be confident that this finding is correct. i.e. we are saying that they were absent for more actual calendar days than other staff- not making any allowance for the fact that they may have been due to work fewer calendar days in the first place.

Conversely, we might expect part-time staff, for example working three full days a week to have a lower chance of being ill on any given standard work day than full-time staff, so the reverse result (part-time staff having significantly less absence) may not be a significant finding.

[13] Please note that as of August 2010, the official definition of “working age” expanded to include both males and females aged 16-64 years old; this reflects a planned change in the female state pension age. All have been included in our working-age populations.

Annex B: Analytical approach

Two statistical approaches have been used to test for differences in the data: univariate methods that test one variable at a time and multivariate methods that compare several variables simultaneously.

B.1 Univariate methods - Chi-squared and Proportions tests

These tests were employed to test whether the proportion of staff by each diversity grouping was significantly different from that found within the local working-age population. They were also used to investigate recruitments to check if the proportion of candidates by each diversity grouping was significantly different from that of the local working-age population.

The results of these statistical tests give an indication of whether the pattern observed in the data was “significantly different from what would have been expected” or conversely whether any difference in proportions could be explained by natural variation.

For example, if there had been 100 staff, 30 of whom were male, and the local working-age population was 50% male and 50% female, the tests would tell you whether the group was statistically different from any random sample of 100 from the working-age population.

For these tests we used the “95% confidence level”. This means that if we reported a difference as being significant it meant there was only a 5% likelihood that the difference could have occurred purely by chance. We have also reported on differences that were significant at the 99% level – i.e. a 1% likelihood that the differences would have occurred by chance.

A certain amount of variation is expected, even with completely random samples, and so it should not be assumed that something that is statistically significant indicates that there is a bias – the level of significance only indicates the likelihood of something occurring. For example, a significant result at the 99% level would indicate something which is more unusual than something that is only significant at the 95% level.

As there are several characteristics to be tested, several univariate tests had to be conducted. One of the drawbacks of multiple univariate testing is that the more tests that are undertaken the higher the probability of finding false significant results. To reduce this risk, we have used the Bonferroni adjustment to the significance levels.

A further drawback with univariate approaches is that they do not take into account all of the other factors simultaneously. In practice an individual staff member has several characteristics: their sex, race, working pattern etc. In looking at only one of these characteristics at a time (for example in relation to performance), the effect of another characteristic is not taken into account and results can be misleading. It is possible to use multi-dimensional contingency tables for chi-squared tests, but the interpretation of the results can be difficult.

It is still, however, an appropriate approach in many circumstances – particularly when the group of staff should be reasonably comparable with the rest of the population (e.g. staff ages compared with working-age population; or the sex split across pay bands).

B.2 Multivariate methods – Regression Analysis

The main technique used to analyse data taking into account several factors simultaneously was regression: either multiple, logistic, Poisson or negative binomial.

Regression attempts to predict a dependent variable (e.g. the amount of sickness absence) using one or more independent variables (such as sex, age etc). In using multiple regression, the principle is to find the "line of best fit" by minimising the sum of the squared distance from the fitted line to each observation. (This approach is sometimes referred to as ordinary least squares regression). The aim is to find a set of independent variables that have a significant relationship with the dependent variable.

Much of the data that was analysed had a binary (0/1) result, for example, was in a pay band or not; obtained the top performance rating or did not; was selected for interview or was not etc. This type of data lends itself to being analysed using logistic regression. Logistic regression is analogous to ordinary least squares regression, with the exception that a logistic curve rather than a straight line is fitted to the data. In some cases, neither multiple nor logistic regression was suitable – for example for analysing the amount of sickness absence taken, which for the majority of people was nothing or very little but for a small number of cases was very high. For this analysis Poisson or negative binomial models were used.

In all these approaches, the first step is for each characteristic to be tested in turn to see if it is significantly associated with the outcome (e.g. passed a recruitment stage or not). By significant, we mean that a staff characteristic accounted for an unusually high proportion of the variation seen in the dependent variable. For example, to see if age was a significant factor as to whether someone had passed the interview stage. In this case we would say something was successful or significant in "explaining the variation", to mean that if you knew the characteristic of the staff member, you would have a better chance of predicting the outcome (for example if you knew the age, you would also know something about the likely interview outcome). The starting assumption was that prior knowledge of someone's sex, race, age etc should not enable the model to predict whether they were more likely to have received the highest performance rating or were interviewed etc. Again, as with the univariate approach, significance does not necessarily equate to bias but gives the relative likelihood of it occurring.

The next step in the modelling process was to include the characteristic that explained the majority of the remaining variation after taking account of the first variable. This step was repeated until the variables outside the model could explain no further variation.

Generally an outcome could not simply be explained by a single characteristic. Often, it was several characteristics together that were important. For example, age, sex and race were quite often found to be a powerful combination. A major advantage of the multivariate approach, compared with univariate, is that it is easier to see the relative importance of the characteristics.

There was an element of judgment involved in deciding which variables to include. In some cases variables were highly correlated, e.g. sex and full time equivalence: females were more likely to be part-time than males. Where both were statistically significant and improved the amount of variation that could be explained, both were included.

Annex C: Tables and charts

C.1 Year on year comparison – all staff

Due to rounding, some percentages may not sum to exactly 100%.

Staff Type	March 31st 2012			March 31st 2013			Percentage point change	% change from 2010
	2011/2012	% of total	% of total that declared	2012/2013	% of total	% of total that declared		
All staff	2148			2216				
Males	1555	72.4%	72.4%	1587	71.6%	71.6%	-0.8	+2.1%
Females	593	27.6%	27.6%	629	28.4%	28.4%	+0.8	+6.1%
White	1887	87.8%	95.7%	1845	83.3%	95.9%	-4.6	-2.2%
BME	84	3.9%	4.3%	79	3.6%	4.1%	-0.3	-6.0%
Unknown Race	177	8.2%	-	292	13.2%	-	+4.9	+65.0%
Non-disabled	1940	90.3%	95.4%	1941	87.6%	95.7%	-2.7	+0.1%
Disabled	94	4.4%	4.6%	88	4.0%	4.3%	-0.4	-6.4%
Unknown disabled status	114	5.3%	-	187	8.4%	-	+3.1	+64.0%
Full Time	1935	90.1%	90.1%	1966	88.7%	88.7%	-1.4	+1.6%
Part Time	213	9.9%	9.9%	250	11.3%	11.3%	+1.4	+17.4%
Average age	47.2			47.4				