



Ministry
of Defence

Air Command Secretariat
Spitfire Block
Headquarters Air Command
Royal Air Force
High Wycombe
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HP14 4UE

Ref: FOI 2023/11083

[REDACTED]

12 October 2023

Dear [REDACTED]

Thank you for your correspondence of 11 September 2023 requesting the following information:

I am reaching out to formally request information pertaining to the Royal Air Force (RAF) recruitment process, specifically concerning the policies and opportunities available to individuals with varying degrees of colour vision deficiencies.

1. RAF Colour Blind Test Alternatives

I would be grateful if you could provide detailed information on the following:

Details of the initial colour vision test (Ishihara Plate Test) conducted as part of the RAF recruitment process. This should include information on the specific procedures involved, the number of plates used, and the criteria for passing the test.

Information on any alternative tests that are administered to applicants who are unable to pass the initial Ishihara Plate Test. I am particularly interested in learning what these alternative tests entail and the provisions made to ensure they are fair and inclusive.

2. Opportunities for Individuals with Mild Colour Vision Deficiencies

Furthermore, I am eager to understand the career opportunities available in the RAF for individuals who have been rated with colour perception levels CP1 to CP4. Specifically:

A breakdown of the roles that are available to individuals with CP1 to CP4 ratings, highlighting any roles that might be particularly suited to individuals with mild colour vision deficiencies.

Information on any support or accommodations that are provided to individuals with colour vision deficiencies to enable them to perform their roles effectively.

I am treating your correspondence as a request for information under the Freedom of Information Act 2000 (FOIA). A search for the information has now been completed, and I can confirm that information in scope of your request is held.

Some information relating to part 1 of your request has been withheld under Section 21 of the FOI Act, as it is available to you by other means. The Joint Service Manual of Medical Fitness, Joint Service Publication (JSP) 950 Medical Policy Leaflet 6-7-7, Section Three, Annex G provides the guidance on the assessment of red/green colour perception, available on page 54 of the below document.

[JSP 950 Lft 6 7 7 JSMMF v2.4 Oct 22.pdf \(whatdotheyknow.com\)](#)

Furthermore, information on Royal Air Force (RAF) policy is located in the Royal Air Force Manual, Assessment of Medical Fitness, Air Publication (AP) 1269A.

The relevant extracts from AP1269A are below:

Leaflet 4-02, Paragraph 50

50. Colour Vision Testing. Colour vision testing of all aircrew and controllers at entry is to comprise of an initial screen by Ishihara plates by the Approved Medical Contractor. Ab-initio aircrew and controllers who attend the Formal Medical Board at R&SDOM are to have Colour Assessment and Diagnosis (CAD) screening. Those who fail the CAD screening test at R&SDOM must pass the full CAD test. An acceptable CAD score for both aircrew and controllers is CV0 or CV1⁶⁷:

CV Category	CAD Unit Threshold	CP Equivalent
CV0	Normal trichromats with RG threshold \leq the mean for age	CP2
CV1	Normal trichromats with RG threshold \leq the upper normal limit for age	CP2
CV2	RG threshold \leq 2.35 CAD Units but not CV1	CP1
CV3	RG threshold \leq 4.00 CAD Units but not CV2	CP3
CV4	RG threshold \leq 12.00 CAD Units but not CV3	CP4
CV5	RG threshold $>$ 12.00 CAD Units but not CV4	CP4

Further detail can be found at AP1269A Lft 5-14 Annex A.

⁶⁷Except for AGS, VGS and FMOs who can be CP4.

Leaflet 5-14, Annex A, Paragraph 12, 13

12. Ishihara Testing. The first 17 plates of the 24 plate edition of the Ishihara pseudoisochromatic plates are to be used for colour vision testing. The plates should be viewed at a distance of 3 feet in daylight or its artificial equivalent and the candidate should be allowed up to 5 seconds to read each plate without handling them. If all plates are read correctly, the candidate is CP2 colour vision normal. If any mistakes are made, the candidate is assessed CP4 colour vision defective. Detail on the use of Ishihara plates can be found in JSP950 Leaflet 6-7-7 section 3 annex G. X-Chrom lenses are not permitted and care should be taken to ensure that candidates are not wearing them.

13. CAD Testing. Research by Prof Barbur et al has shown that the Colour and Assessment and Diagnosis (CAD) test has 100% sensitivity and 100% specificity for the assessment of CVD which is a significant improvement on the DMS use of the Ishihara 24 plate test with zero errors which will fail 9.2% of colour normals and pass 1.7% of deuterans, some of whom will have a severe CVD; 0.6% of protans will also pass. While use of the HWL-A test on high intensity improves these figures some deuterans and protans are still able to pass this test (22% and 1.4% respectively). Barbur has devised 6 levels of colour vision based on CAD unit thresholds for Red Green vision (table 1):

Table 1

CV Category	Description
CV0	Normal trichromats with RG colour thresholds below the mean value for the corresponding age. Only 50% of colour normal individuals would meet this grade which could be used for individuals required to undertake extremely demanding colour related tasks.
CV1	Normal trichromats with RG colour thresholds below the upper normal limit for the corresponding age.
CV2	Functionally normal trichromatic vision with a CAD threshold \leq 2.35 CAD units.

	Would include ~7% of the least affected deuterans.
CV3	Safe trichromatic vision with a CAD threshold ≤ 4.00 CAD units. Would include ~22% of Deuterans matching the percentage of deuterans who would pass the HWL-A. All would have normal colour vision for suprathreshold colours as used in VDUs but some may have difficulty with desaturated RG colour signals close to normal thresholds.
CV4	Poor Red Green colour vision with a CAD threshold ≤ 12.00 CAD units. ~32% of deuterans and ~29% of protans will fall into this category. Many would be able to cope with VDUs which usually use a saturation threshold of 24 CAD units but normally take longer to complete colour related tasks and with more errors.
CV5	Severe Red Green colour vision deficiency with a CAD threshold > 12.00 CAD units. ~70% of deuterans and ~46% of protans will fall into this category. Many will be unable to cope with VDUs and the changes they experience in luminance and contrast can significantly affect their visual performance

CAD CV Categories are not directly comparable to the military CP system however they have been mapped across in the table given under Leaflet 4-02, Paragraph 50.

Under Section 16 (Advice and Assistance), you may find it helpful to know that the RAF only use Colour Perception (CP) gradings 2 and 4 with 2 being normal colour perception and 4 being colour deficient as detailed in the policy extract above. It is worth noting that as JSP 950 is a Tri-Service publication and details CP gradings for all the Services. Furthermore, whilst AP1296A refers to the 24 plate Ishihara Plate Test, the recruiting medical contractor, Capita, use the 38 plate version for RAF recruitment which is a more comprehensive test. You may also find it helpful to know that AGS, VGS, and FMOs expand to Air Ground Stewards, Voluntary Gliding School, and Flight Medical Officers respectively.

For part 2 of your request, please find attached Annex A, RAF CP grading requirements by Profession/role.

In relation to information on support or accommodations that are provided, as colour deficiency is screened for as part of entry, most service personnel will be aware of their colour perception status and be working in a suitable role. Occasionally colour perception deficiency may be found during service and workplace adjustments can be made, albeit are rarely necessary, to help the service person and ensure safe working i.e, supervision for safety critical tasks, altering contrast on screens or secondary labelling. Often the colour deficient person has already learned coping strategies to differentiate colour, but this would not be permitted for safety critical roles.

If you have any queries regarding the content of this letter, please contact this office in the first instance.

If you are not satisfied with this response or wish to complain about any aspect of the handling of your request, then you should contact me in the first instance. If informal resolution is not possible and you are still dissatisfied then you may apply for an independent internal review by contacting the Information Rights Compliance Team, Ground Floor, MoD Main Building, Whitehall, SW1A 2HB (e-mail CIO-FOI-IR@mod.uk). Please note that any request for an internal review must be made within 40 working days of the date on which the attempt to reach informal resolution has come to an end.

If you remain dissatisfied following an internal review, you may take your complaint to the Information Commissioner under the provisions of Section 50 of the Freedom of Information Act. Please note that the Information Commissioner will not normally investigate your case until the MoD internal process has been completed. The Information Commissioner can be contacted at: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF. Further details of the role and powers of the Information Commissioner can be found on the Commissioner's website at <https://ico.org.uk/>.

Yours sincerely,

[Original signed]

Air Command Secretariat

Enc:

Annex A, RAF CP grading requirements

Annex A – RAF CP grading requirements

Below shows the minimum Colour Perception (CP) grading for roles in the RAF.

Commissioned and/or Aircrew roles

Air Operations (Control)	CP 2
Air Operations (Systems)	CP 2
Non-Commissioned Controller	CP 2
Chaplain	CP 4
Dental Officer	CP 4
Engineer Officer (Aerosystems)	CP 2
Engineer Officer (Communications-Electronics)	CP 4
Intelligence Officer	CP 2
Legal Officer	CP 4
Logistics Officer	CP 2
Medical (All Branches)	CP 4
Personnel Support Officer	CP 4
Personnel Training Officer	CP 4
Pilot	CP 2
RAF Police Officer	CP 2
RAF Regiment Officer	CP 2
Weapons Systems Officer	CP 2
Weapons Systems Operator (SNCO)	CP 2
Weapons Systems Operator (Linguist)	CP 2
Remotely Piloted Aircraft System Pilot (RPAS)	CP 2
Internal Commissioning Scheme	
Fire Officer	CP 2
MSO Biomedical Scientist	CP 4
MSO Environmental Health	CP 4
MSO Radiographer	CP 4

Enlisted Aviator Roles

Air & Space Operations Specialist (Aerospace Systems)	CP 2
Air Cartographer	CP 2
Aircraft Technician (Avionics)	CP 2
Aircraft Technician (Mechanical)	CP 2
Biomedical scientist	CP 4

Communication Infrastructure Technician	CP 2
Dental Nurse	CP 4
Environmental Health Practitioner	CP 4
Fire Fighter Under age 25	CP 2
Fire Fighter over age 25	CP 2
Air & Space Operations Specialist (Flight Operations)	CP 2
General Technician (Electrical)	CP 2
General Technician (Mechanical)	CP 2
General Technician (Workshops)	CP 2
Cyberspace Communications Specialist	CP 2
Intelligence Analyst	CP 2
Intelligence Analyst (Linguist)	CP 4
Logistics Air Ground Steward	CP 4
Logistics Chef	CP 4
Logistics Driver	CP 2
Logistics Mover	CP 2
Logistics Supplier	CP 4
Musician	CP 4
Operating Department Practitioner	CP 4
Personnel Support	CP 4
Pharmacy Technician	CP 4
Photographer	CP 2
Physical Training Instructor	CP 4
Radiographer	CP 4
RAF Medic	CP 4
RAF Police	CP 2
RAF Regiment Gunner	CP 2
Registered Nurse (Adult)	CP 4
Registered Nurse (Mental Health)	CP 4
Student Nurse (Adult)	CP 4
Survival Equipment Specialist	CP 2
Engineering Technician Weapons	CP 2