



Certification of initial applicants for a Class 3 medical certificate who have a mild deutan colour vision deficiency

Summary of Procedure

The aeromedical centre (AeMC) assesses the applicant to the initial class 3 standard and if they have a red-green colour assessment and diagnosis (CAD) test result between 2.35 and 4.0 they can be granted a Class 3 medical certificate with an “SSL Special restriction(s) as specified: issued by licensing authority in accordance with Part ATCO.MED.B.001” endorsement. The applicant will provide a completed assessment report at the time of the award of their basic ATCO licence, signed by a trainer, confirming that they have had no issues with identifying colours during their initial training. A further assessment report should be submitted on completion of unit training.

Background

The current requirements for Class 3 medical certification of air traffic controllers (ATCO), which were assimilated from EU regulations on EU exit, include the need for applicants to be normal trichromats. This requirement is much stricter than that for pilots. Following the development of the CAD test, the Civil Aviation Authority (CAA) published CAP 1429 which explored how the test could be applied to ATCOs as well as pilots. Different levels of colour vision were determined, including CV1 “Normal” trichromatic colour vision, CV2 “Functionally normal” trichromatic colour vision and CV3 “Safe” trichromatic colour vision. CV2 was taken as the highest level that would fulfil the requirement for normal trichromacy. However, CV3 was also considered to be a safe threshold, but it did not fulfil the requirement of the regulation.

There are 1-2 applicants for a Class 3 medical certificate every year, who meet the criteria for “safe” trichromatic colour vision but who are not normal trichromats. They are assessed as unfit for certification. Some applicants with a mild deutan deficiency (≤ 4.00 CAD units) will have red-green colour discrimination difficulties with small red-green colour signals that are close to normal thresholds¹. They do however exhibit normal levels of visual performance when suprathreshold colours defined by both red-green and yellow-blue components are employed, which is usually the case in the modern ATC environment, and where adjustments can be made to the screen by the user.

There are ample opportunities to demonstrate that an applicant with a mild deficiency, as measured with the CAD test, can operate safely within the ATC environment during training towards a student ATCO licence and then ATCO licence. It is the CAA’s intention to update the implementing rule from “normal trichromat” to “colour safe” during the current rule making task. In the meantime, this document outlines an interim solution to enable these applicants to gain a Class 3 medical certificate.

The impact of colour recognition may vary between the training colleges and the units, and depend on the task (e.g. tower or radar) and type of equipment/displays being used at each location. It is therefore a requirement to complete assessments for both initial training and unit training. The assessment form for each should be signed by the college or unit manager to assist the CAA with verification.

Procedure

In the UK, all aeromedical centres (AeMCs) shall use the CAD test to measure the colour thresholds for initial applicants for UK Class 3 certificates. If the CAD test demonstrates:

- thresholds for red-green for 1.79 or less (normal trichromacy), the test is considered acceptable for certificate issue.
- thresholds of 1.79-2.35 CAD units, the result must be referred to a CAA medical assessor. Additional testing may be required but, with reference to CAP 1429, thresholds between these values will normally be accepted as being of a functionally normal trichromat, meaning that there is a very mild colour deficiency but the applicant performs the same as people with normal colour vision.
- thresholds of >2.35 CAD units and ≤ 4.00 CAD units, with a normal yellow-blue result:
 - the assessment of fitness should be referred to a medical assessor of the CAA.
 - a Class 3 certificate endorsed with “**SSL Special restriction(s) as specified: issued by licensing authority in accordance with Part ATCO.MED.B.001**” may be issued if the other aspects of the application are satisfactory.
 - when the applicant meets the requirements for issuing a student ATCO licence, a separate assessment report (Appendix 1) should be completed and signed/countersigned by the college manager and submitted to the CAA medical department. The person completing the form must be competent to perform the task, i.e. by virtue of having current operational knowledge of the equipment and working environment where impaired colour vision may have an impact. They will be confirming the applicant’s satisfactory progress during training and that there have been no issues around the student’s ability to correctly interpret colour signals both on visual displays and in other aspects of ATCO tasks.
 - on completion of unit training another form should be completed, countersigned and submitted to the CAA Medical Department.

A record of all certificates issued in this way should be maintained by the CAA medical department. Following a future rule change that amends the requirement for applicants to be normal trichromats, this policy and all certificates issued in accordance with it, shall be reviewed and consideration given to removal of the endorsement.

Notes

This policy and the medical certificates issued in accordance with it will be fully ICAO compliant.

References

1. CAP1429 Analysis of European colour vision certification requirements for air traffic control officers Oct 2016



APPENDIX 1

ATCO colour vision assessment report

Please print and complete this form as follows.
 Sections 1 and 3 to be completed by candidate.
 Section 4 to be completed by the trainer/manager conducting the assessment.

1. Candidate’s personal particulars

Name (in full)

CAA reference number

Date of birth

Current address

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Telephone numbers Home..... Mobile.....

2. Purpose of the assessment

Currently, holders of a Class 3 medical certificate are required to have completely normal colour vision. However, it is known that applicants with mild red-green colour vision impairment can safely distinguish colours in the ATCO environment. The CAA intends to update the current regulation at the earliest opportunity and in the interim has introduced a process that will enable applicants with mild red-green colour vision impairment to obtain a Class 3. The CAA is monitoring this process and completion of this form helps with this task.

The impact of colour recognition may vary between the training colleges and the units and depend on the task (e.g. tower or radar) and type of equipment/displays being used at each location. A separate assessment should therefore be completed for the college and unit elements of training. The completed form for each should be signed/countersigned by the college or unit manager to assist the CAA with verification.

3. Declaration

I, the candidate, understand the purpose of this assessment report (section 2) and consent to the sharing of information about my colour vision required to complete this document.

Signature of candidate Date.....

Candidate's CAA reference number.

4. Colour vision assessment report

I, the trainer/manager conducting the assessment, have discussed the purpose of this assessment form specified in section 2.

Training organisation / Unit

Location(s) for training

Please answer the questions below and comment on the candidate's ability to operate safely (required). Any concerns about the capability of the candidate should be included.

- Has the training organisation conducted a safety impact assessment of colour recognition, based on the task and equipment in use? Yes No
- During training, has this candidate's progress been affected by their ability to recognise colour signals on aircraft or display screens accurately? Yes No
- Does the candidate require any adjustments to colour signals of display screen equipment? Yes No
- Does the candidate demonstrate satisfactory monitoring of displays, responding to conflicts or making adjustments as required? Yes No
- Does the candidate react in a timely and appropriate manner in emergency situations? Yes No

Any additional comments

Assessment conducted by (please print name)

Position Location

UK CAA licence / certificate number (if applicable)

Signature Date

College/unit manager if not above (please print name)

Signature Date

This form should be sent to the CAA Medical Department, Civil Aviation Authority, Aviation House, Beehive Ringroad, Crawley, RH6 0YR or to medicalweb@caa.co.uk